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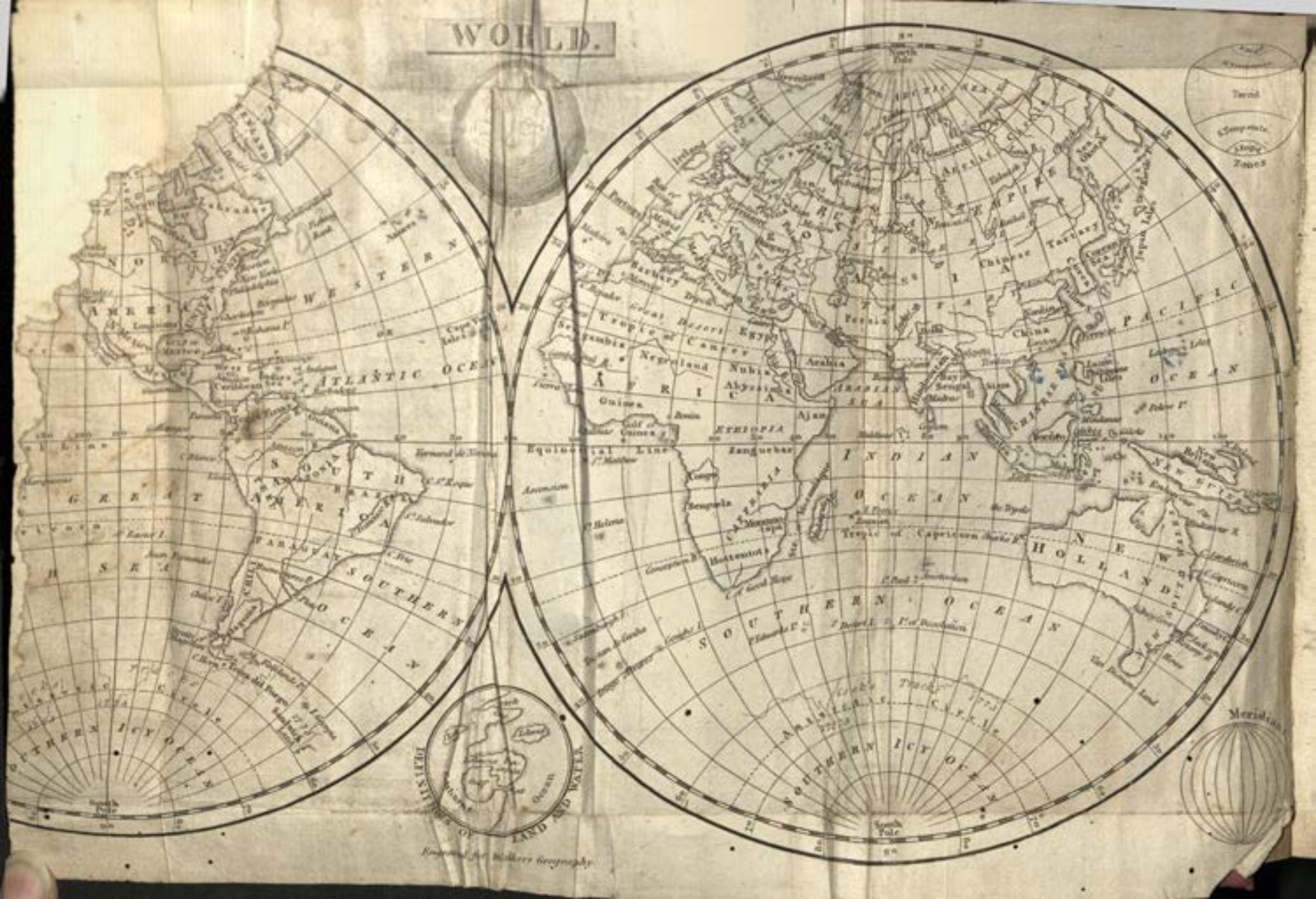
Torrid
Temperate
Frigid
Zones
NORTH AMERICA
ATLANTIC OCEAN
GREAT SOUTH AMERICA
PACIFIC OCEAN
AFRICA
EUROPE
ASIA
INDIAN OCEAN
NEW HOLLAND
SOUTHERN OCEAN
Equinoctial Line
Tropic of Cancer
Tropic of Capricorn
Meridian

ELEMENTS

OF

GEOGRAPHY,

AND OF

NATURAL AND CIVIL

HISTORY.

3-9-23
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CONTAINING,

I. The Order of the Spheres.

II. The Economy of the Sublunary Works of Creation, inanimate and living.

III. Picturesque and general Sketches of the different Parts of the Earth; and the varied Appearances and Manners of it's Inhabitants.

IV. The Rise, Revolution, and Fall, of the principal Empires of the World.

V. Changes through different Ages in the Manners of Mankind.

VI. VII. VIII. IX. Description of the different Quarters of the World; Europe, Asia, Africa, and America. Their Divisions into Countries, Provinces, &c. Their Climates, Soils, Animals, Plants, Minerals, Mountains, Rivers, Lakes, Canals, Commerce, Manufactures, Curiosities, Schools, Learning, Literati, Religious Professions, Language, Government, History, &c.

BY JOHN WALKER.

SECOND EDITION.

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1795.

DIRECTIONS TO THE BINDER.

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Agricul. Encyc. Brit. W. Allen London, *T. Bell* Dublin, *Chaptal, Chefelden, W. Deaſe* Dublin, *Electr. Encyc. Brit. W. Fardon* Witney, *Goldſmith, Locke, D. Monro, T. Pole* London, *J. Prieſtley, Rouſſeau, J. Wagſtaff* Norwich, *T. Waite* Dublin.

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Guthrie, Jones, Martyn, J. Prieſtley, Raynal, Salmon, Vyſe.

*** The names in italic are authorities conſulted, and the correſpondents, who have ſupplied information to the work.

ERRATA, ADDENDA, &c.

page.	line.	read.
4	22	latitudes, than what have been paſſed in the northern hemiſphere. The ſeas
7	42	contrary forces
8	43	or machines; in whatever proportion the greater exceeds the leſs, if, in
	4	but ſetting this aſide, we may conſider
	9	Let the globe
	3	*Seaſons.*] The earth
	29	at once, and every
	35	and 36 as the velocity of the power Q bears to the velocity of the end of the ſcrew, or of the tooth of the wheel and 7 equal to the weight B; C is equal
	28	and 29 the axis may be conſidered as a fulcrum
	22	ſun no longer ſhines on the ſouth pole,
	24	the dreary waſtes round the arctic pole are involved
12	12	earth's annual motion
	14	be unequal
17	24	to about half a mile
25	32	it's courſe from eaſt to weſt while it
26	24	of the rain
29	8	the ſouthern, our winter ones
39	7	unacquainted
45	10	It is not to be expected, that comets ſhould preſerve the ſame regularity in their periods
47	17	rapt in ſilent wonder
48	34	new creation, in the appearance of a new ſtar; a glimpſe
51	48	cometic
56	20	and 21 our ſenſes
	43	it in the power of man to modify
	48	ſome have ſtrangely
58	17	founded upon
59	47	of regular
63	7	meteors hardly
	10	wars, and actually
	17	may be diſſipated
	27	the coverings
	28	By rubbing
65	5	interrupted; when

ERRATA

page.	line.	read.
66	11	cauſe of cryſtallization
67	42	heat. On the
69	49	pellucid; rays
71	4	Thus, fig. 42.
	11	appearance; and if the obſerver be without the focal point, the image will be reverſed, and will appear to be (not on, or in, but) without the mirror, or between it and the obſerver. Turn the mirror
	31	the veſſel will be illuminated
72	3	*conv.*
	6	*conc.*
78	5	and 6 own, join
	20	aſſociate
79	6	call a croſs
	8	one over another
80	4	diviſions; as we
	5	colours. One
	48	laws. The
	49	luxuries, has
81	15	their noiſe
	21	dome, and claſh
	33	bodies. Without
	37	without it fires
83	27	vivid flames
84	43	from the place
85	14	ſeem to ariſe
86	15	forms
	47	ſtones
97	20	vegetable alkalichas
103	3	referred to bitumens
106	16	dodecahedrons.
115	47	and the lichens,
116	43	decompoſition produces,
134	16	defence: their
	18	joint, their
144	28	vein, will
149	2	object to a
152	24	the thiſtle
163	30	Reſolution, Cook, and Diſcovery, Clark
166	1	rocks as follows. They
171	12	or altogether
189	40	daughter of
192	24	is called
216	17	one of his diſciples married
218	6	chief articles for barter
220	1	I ſeemed
227	14	in the book of Geneſis
228	14	times. *Pro.*
237	34	they do not eat
	39	graſs; oxen, rein deer,
247	30	bogs, for fuel;
	40	orders of men
252	18	darting it's beams
268	2	cow. Two
271	18	accordingly as
274	29	this lord
290	20	Nemean,
291	35	Aſcanius
	43	Servius
292	39	Arſacides,
294	23	himſelf up
295	29	his deiſts,
	35	nugatory,
296	16	Pruſſaa, in Bithynia
300	13	of the abſurd
	41	erecting pillars
316	1	miſtaking
	8	what he could not
333	10	of part of the people,
334	3	of part of the people
336	45	And whereas in
340	49	jury of his peers,
365	7	of the general
374	16	meditate
376	41	and 42 might have at this time, 1159, for the
429	16	in France of
469	43	celebrity
487	35	carried on by
496	36	amazing
535	29	friends in Twelfth-month
536	35	wretched
540	4	Eleventh-month
546	6	and determined on defending
556	24	and 25 government, delegates

Beſides the above errata, there are others, which the moſt perfect knowledge of our language would ſcarcely enable us to avoid. The heterogeneous tongues of Europe ſeem generally to want ſuch reform, as the chemiſts of the French ſchool have introduced into the new nomenclature. There is, often, a want of preciſion in the ſignification of the words: even our ſpeech is polluted by the wretched ſtate of ſociety, where poſſeſſions, not morals, are the criteria of worth; and every expreſſion that may occur in this work, giving any degree of approbation to ſuch diſtinctions as theſe, I deſire to be conſidered as erratum. The ſtyle, the arrangement, and the whole manner of treating every ſubject may be ſeverely criticiſed; it may be uſeful to expoſe the errors and ignorance of book-makers; but if there be found in it, expreſſions of ſentiment unworthy a citizen of the world; if from abſence, or want of recollection, I have ſo far erred, as to advance any thing incompatible with the Rights of the People, not already noted in the errata, I hope it will be excuſed as a miſtake, which has been overlooked, for I ſhould be unhappy to be ſuſpected of having intentionally advanced any thing contrary to the evangelical principles of Peace, and the Equality of Men.

TO THE

FEMALE SEX.

THOUGH averſe from attempting to ſet marks of diſtinction on any deſcription of people, I have, on a former occaſion, avoided the common mode of dedicating books; on the preſent, I take the liberty of addreſſing this to you. To you belong the tending of the firſt wants, and the meeting of the earlieſt wiſhes of the helpleſs babe; to you the giving of the firſt impreſſions of education to the dawning mind.—So intereſting are your employments, ſo favourable to the charities, the ſympathies, the every tender affection of humanity: while the principal buſineſs of the men is to break down matter, or to combine parcels of it into new forms, and carry it about from place to place. Yet, to theſe belongs, according to the preſent depraved ſyſtem of things, the privilege of addreſſing you on the moſt tender affection wherewith human life is diverſified; while ye, however impaſſioned, may wait in ſilence, and ſee your years paſs away in unavailing patience. If either ſex ought to have the excluſive privilege of addreſſing the other on the ſubject of love, it were better that ye were entruſted with it.

To enforce the equality of the ſexes, ſome pages of this work have been devoted. But, though I have always felt a predilection for the productions of the pens of the females, I have not copied the feminine manner: on the contrary, I am conſcious of having committed myſelf, as in the preſent addreſs, with an earneſtneſs on this ſubject, of which your gentler natures would, perhaps, have been generally incapable. In aſſerting the rights of women, and on

every other moral ſubject, I have ſpoken the language of my heart; ſincerity, I hope, rather than complaiſance, being my object. I have even expoſed ſome palpable feminine abſurdities, that the more ſpecious ones might be ſuſpected to be hurtful, and conſequently be relinquiſhed. And I am ſorry to have it in my power to uſe the following language, in ſpeaking of a multitude of the ſex.

The inconſiderate women—why will they vainly and indecently deform themſelves, running after every changing faſhion, ſtarted they know not where, nor from what intereſted views!—They almoſt merit to be the toys of the men, while they act ſo inconſiſtently with good ſenſe. Moreover, they bear about, in the diſplay of their finery and their delicacy, or *moleſſe*, (as do alſo ſome of the men, more indecent than they) a certain proof that they are a burden on ſociety; that they preſs hard on the working part of the community, who have to toil for their ſupport and their extravagancies. Unhappily, even theſe do not feel the injury they are receiving from them: inſtead of exhibiting any marks of diſapprobation for a conduct ſo unfair, they ſeem generally ſatisfied, and flatter their abſurdities, and keep up their own oppreſſion.

With a different deſcription of women, and with the chaſte among the gay, if I may but ſtand, in ſome degree, approved on this occaſion, it will be one of my greateſt gratifications.

While a paſſion for reform is agitating the earth, and while different tracts on this ſubject have obtained the greateſt celebrity, I call upon you to think rather than read. If ye would do this without prejudice, reforms, more permanent and more beneficial than thoſe produced by the clamour of aſſemblies and the clatter of arms, would take place in ſociety.

May I call upon you, as ye may happen to open this work—may I call upon you to think ſeriouſly on

the

the heart-affecting ſubject alluded to? Let the men make up their bundles, and bear them about, lie in wait for each other, ſeeking advantage in all their movements; or, bent over their deſks, record profit and loſs. Ye need not envy them their perplexing cares; yours are of a far more intereſting kind, and yield far more ſatisfactory gratifications. But do have compaſſion on them, as ye ſee them bewildered, and wake them from their dreams of gain, whether of lucre, lore, or fame. If ye yield to the tender paſſion, and can but prefer truth to prejudice—if ye ſhould feel an affection for the moſt ſolitary of theſe wretches, walking in a vain ſhadow, perhaps ye might find, that they were only ſuch through want of thought, and that they would be ſpeedily humanized, if they were but wakened from their dream. To accompliſh reform, ſo beneficial, ye know it would not be neceſſary to demean yourſelves after the manner of the Moabitiſh damſel, who lay at the feet of Boaz, as it is written in the book of Ruth; it is only to lay aſide the factitious delicacy, or dignity, which the Gothic dames, from the northern wilds of Europe, firſt entailed upon you, and to follow the dictates of nature and of truth.

The rights of man and woman are eaſily underſtood, if we would but contemplate on theſe ſubjects. They may be trampled on by the oppreſſors of the human kind, but the baſe deſigns of theſe are eaſily detected. In the midſt of their uſurpations, they ſometimes betray ſelf-conviction and timidity, and they are often overtaken in their own wicked machinations. But the ſacred rights of humanity are moſt completely violated by the dreadful power of prejudice, where no ſordid intereſt intervenes. The promoters and abettors of prejudice, or of ſuperſtition, and the falſe notions of moral obligation, are not ſenſible of the evil which they are working. With ſelf-approbation they break the bonds of ſociety, and

impoſe

impoſe upon poſterity their miſtaken attachments, their abſurdities, their animoſities and antipathies; and their errors are often conſecrated, inſtead of being diminiſhed, or deſtroyed, by the lapſe of ages.

In many of our moſt important affairs, when we imagine we are acting from principle, we are, perhaps, only ſuperſtitiouſly following the ſteps of our predeceſſors. Indeed, ſo ſatisfied are we generally with taking things as we find them, that if a change be attempted in the moſt abſurd of our cuſtoms, we call it, with the ſtricteſt propriety, an innovation; but how few are there who do not conſider an innovation to be an invaſion! we generally feel our prejudices attacked, and immediately endeavour to repel our aſſailants. And will ye alſo repel innovation as invaſion? It is to be hoped, from the advances which Philoſophy and Truth have made in the ſuperſtitious regions of the earth, in later times, that your prejudices will not long ſurvive, and that your equal rights will, at length, be aſſerted, as well in public, as in domeſtic, life. The time, it is to be hoped, is approaching, when the lords of the creation will loſe their plenitude of power, and no longer preſume to enact laws but with your equal concurrence, when we ſhall no longer be agonized with the indecent ſpectacle of your ſex, who may be charged with crimes, being dragged before their tribunals.

While theſe violations of equal juſtice ſeem to have obtained a general toleration, and to have acquired a degree of permanence from their age; it is curious to obſerve, how the ſame pernicious reverence for antiquity reconciles the greateſt abſurdities, in every department of ſociety. In ſympathy for the prejudices of the weakeſt of your ſex, I ſhall not preſume to attempt to diſcover and expoſe the abſurdities, which, with the ſuperſtitious, ſucceſſively attach to the varied relations of bride, mother, and nurſe. I turn alſo from the complicated ſcene of diſtortion, which ſociety ſo univerſally exhibits in detail, and en-

deavour to bring forward, in proof of theſe obſervations, ſome of the ſimple and innocent examples, which fall under the notice of the traveller, who is inquiſitive after *mears* and *boundaries*. It is amuſing to obſerve, with what ſerioufneſs people of good ſenſe and judgment inform us of the rents and detachments, which have been made, in the forming of the different diviſions and ſubdiviſions of the country. 'Such a ſpot,' ſay they, without a ſmile, 'belongs to ſuch a pariſh, though ſo many miles off—the oppoſite ſides of this road, or river, are in the ſame pariſh, though in different counties—and there is a tract of land, wholly ſurrounded by this ſhire, which is part of another county.' They treat theſe arrangements, or rather derangements, as if they were founded in nature. If they ſaw their contemporaries making out ſuch demarcations, they would think they were certainly inſane; but the buſineſs having been done by nobody knows whom, at ſome uncertain and remote period, they ſeem to forget that the diviſions are entirely artificial, and that the ſubject of their aſtoniſhment had it's origin in the ignorance, perverſeneſs, or crooked policy of men like themſelves. Happy had it been for ſociety, had the reverence for antiquity never conſecrated greater abſurdities than theſe. But the fact is, that the moſt baneful, as well as the moſt harmleſs of our cuſtoms, have got precedent and preſcription to plead in their ſupport, and prejudice is thus ſanctioned by the ſeal of antiquity. But prejudice is, in ſociety, the abomination of deſolation, of which, if the women could be prevailed upon, to diveſt themſelves, the riſing generation would become enlightened, the paſſing one reformed.

London, 1ſt of Tenth-month, 1795. JOHN WALKER.

PREFACE.

IN an elementary work like the preſent, comprehending an immenſe variety of matter, it cannot be expected that particular parts can be minutely entered into: a general, and frequently very ſuperficial, view of things is all that is attempted.

When Albinus had written a hiſtory of the Roman affairs in Greek, and apologized for any ſlips or improprieties, that might be found in the language, upon account of his being a Roman, Cato called him a trifler, for chuſing to do that, which, after he had done it, he was obliged to aſk pardon for doing: and the ſame cenſure may, perhaps, very naturally offer itſelf here, if I advance any apology on this occaſion; I will venture, however, to remark, that I am ſenſible of a certain inequality of ſtyle in this work; but I hope that ſome allowance will be made, when the diverſity of the ſubjects is conſidered. In conſulting authors ſo different as the eloquenat nd ſtately relater of the Decline and Fall of the Roman Empire, and the plain hiſtorian of Greenland, with every variety between them, it was almoſt impoſſible to preſerve an uniformity; and when the deſcriptions ſuited the purpoſe, ſo far from attempting it, I made conſiderable extracts almoſt literally. But the moſt admiſſible apology, for offering this elementary production to the public, will, perhaps, be, that it is not written for the amuſement of the accurate obſerver, or the man of learning or ſcience; and if it afford information or entertainment to youth, and to thoſe who have not opportunity or inclination to read larger works, the deſign is accompliſhed.

Among the numerous authors, which it was neceſſary to conſult in the compilation of this work, unanimity is not always to be found; and it was ſometimes hard to determine on the greateſt authority. Under ſuch embarraſſments, it ought to be the attempt of the hiſtorian to fix on the moſt probable, and, in this caſe, he may often find a partiality in his own mind, which might influence his compilation; in oppoſition to ſuch prejudice, I have ſometimes given relations where I was rather incredulous myſelf, conſidering that the accounts

accounts of the authors whoſe names are uſed, ſhould be rather plainly told, than twiſted or turned to any particular gratification of humour or wiſh; ſometimes, however, I have ventured to obtuſe deſcription a little, where accounts were marvellous beyond all probability; at others, I have given the hyperbolical and elegant deſcription in the author's own words.

The Authorities made uſe of in the Compilation of this Work, are, viz.

The Articles of Aſtronomy, Electricity, Hiſtory, Agriculture, &c. in the Encyclopædia Britannica,
William Alexander,
John Bonnycaſtle,
Anthony Benezet,
Samuel Boyce,
Hebrew Bible,
M. I. A. Chaptal,
William Cheſelden,
John Churchman,
Thomas Clarkſon,
David Crantz,
Eutropius,
Adam Ferguſon,
James Ferguſon,
Edward Gibbon,
William Guthrie,
Oliver Goldſmith,
William Herſchell,
Mary Wollſtonecraft,
E. Jones,
Juſtin,
John Locke,
W. F. Martyn,
John Millar,
Donald Monro,
Jedidiah Morſe,
Iſaac Newton,
Thomas Payne,
Joſeph Prieſtley,
W. T. Raynal,
W. Robertſon,
J. J. Rouſſeau,
Salmon,
Francis Arouet de Voltaire,
Voyages of James Cook, and other circumnavigators,
Charles Vyſe,
C. B. Wadſtrom,
Adam Walker,

And others, whoſe names I do not now recollect, or from whom I have derived only very ſmall or trifling anecdotes. Beſides all theſe, information from ſeveral of my acquaintance has furniſhed ſome materials, and a little my own obſervation has ſupplied.

Since ſome of the above authors have written well on ſome ſubjects, and falſely or incorrectly on others, it might have been ſatisfactory to readers, that I had mentioned which of their writings were conſulted, and in what part of this work; it would alſo have been ſo to myſelf, particularly in the relation of whatever may apear marvellous, as in the accounts of the kraken and ſea-ſerpent, related by Ponpoppidan, a biſhop of Norway; but this was not thought of at firſt, and if it even had, the different materials are ſo interwoven through each other, that the difficulty of aſſigning every article to it's proper author would have been almoſt inſuperable.

As two of the above authors have diſtinguiſhed themſelves above all the reſt, by the dignity of the ſubjects they have taken up, I think it not amiſs to obſerve, that the aſſiſtance I derived from them, was only ſome hiſtorical information reſpecting the affairs of France, in which country they were, during part of the revolution. The Rights of Women and the

Rights

Rights of Man, I reſolved not to read, till this ſhould be completed; ſo that, far from having taken any bias from theſe celebrated works, I have not yet read them; and, of the former, I have only ſeen the title page, though I have the pleaſure of being acquainted with the author, as well as with ſeveral others whom I have quoted.

But has any yet aſſerted the Rights of the Children? Theſe are, perhaps, even more important than thoſe of Adults; as the bias we receive in childhood, generally accompanies us till old age. That terrific inſtrument of caſtigation, the rod, to which the little, trembling, moral ſubject is ſo often directed to look, by the angry, and conſequently immoral, or the unfeeling and miſtaken parent, debaſes and enſlaves the infant mind; and, nipping principle in the bud, prepares it, in future life, to refer all it's actions to the approbation of depraved men, as a criterion, inſtead of conſidering what are the dictates of truth; and prepares it to re-apply the abrutalizing ſcourge, and to forge and rivet the chains, and keep up the bondage, wherewith ſociety is oppreſſed, and human nature degraded.

Ought parents and guardians, who are not kind and compaſſionate, to be entruſted with the care of children? Children, and the ſick, ought to be objects of public care. The places where theſe helpleſs creatures ſpend their days, ought to be conſtantly ſubjected to domiciliary viſits; and, to the diſtreſſed of every condition, public aſylums ought to be conſtantly open. The child, who is fretted at home, or is diſcontent, ſhould immediately be admitted: the parent ought to have no coercive claim on him; he ſhould only be permitted to allure him home by kinder language and better treatment. On the other hand, the parent ſhould not be obliged to maintain his own children: if it be not his delight to do it, he is unworthy of the charge: and, if they, by their miſconduct, or untowardneſs, render him unhappy, and he cannot prevail upon them to amend, he ought to have the privilege of bringing them to the aſylum. They ought not to be permitted to diſturb him; they ſhould have no claim on parental care, no inherited right to enter the parent's houſe, none, but what they might obtain by a conciliating conduct. Theſe are reformations, however, which we can hardly expect in a country, where even the inſignia of torture, the repreſentations of chains and fetters, are hanged out in feſtoons, as architectural ornaments, on the walls of their priſons, and where a ſyſtem of coercion is ramified through all the departments of ſociety. The general taſte muſt change, or be reformed, before corporal puniſhment will be utterly aboliſhed.

In

PREFACE.

In the preceding digreſſion, the reader has a ſpecimen of a method I have ſometimes adopted in the courſe of the work, which is to deviate a little from the regular plan, when a matter is ſufficiently intereſting to merit an inſertion, and when I may have paſt the place, where it might have been introduced with the greateſt propriety; I hope, however, that no material diſtortion has taken place in conſequence, of this licenſe.

It ſeems unneceſſary, in the preface, to ſay much about the work; in the contents, the plan of it may be ſeen, and in the work itſelf, the manner of it's execution, by which it will be decided on by the reader. Yet there are a few remarks, which I hope to be excuſed in making, though they may ſeem to belong only to a particular deſcription of readers. Among the names received, in encouragement to this work, there are legiſlators of Great Britain and Ireland, and perſons of almoſt every deſcription of buſineſs, mechanical, commercial, and ſcientific; in departments civil, eccleſiaſtic, military, and marine, and of almoſt every religious profeſſion in theſe countries. I have ſubſcribers in America, France, Guernſey, in all the provinces of Ireland, in Scotland, Wales, and in every county of England. Perhaps there never was a work, publiſhed in this way, which met with more liberal encouragement. Some of theſe may expect to ſee their names inſerted; a thing, which I never durſt promiſe, for fear of flattering vanity, by an oſtentatious diſplay, even in this *bagatelle*; (I wiſh I were not allowed to inſert my own name, Art. 150,) though it would have been very grateful to me to have done it, and would have revived in my memory, as well as in that of many others, the recollection of ſome pleaſing ſcenes of Social Amity. But while I balanced between theſe different ſentiments, the work underwent ſuch a change, as made me conclude I ſhould not be juſtifiable in bringing forward the names of the ſubſcribers, leſt they ſhould appear as patrons of a work, which they might, perhaps, diſapprove. In deſcribing the different ages and nations of the earth, I have endeavoured to expoſe the evils which have been impoſed by oppreſſors on their own ſpecies, as well as on the brute creation; and, yielding to ſuch diſpoſition, I have been led into details which I am ſenſible may alarm the fears, and awake the prejudices of many whom I eſteem and love. I I wiſh theſe to obſerve, and every reader whom it may concern, that, in my moſt earneſt declamations againſt tyranny, whether palpable or ſpecious, the ſentiments are my own, and many of them are inſerted, in oppoſition to the judgment of ſeveral whom I eſteem. If, in manifeſting this independence

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of ſentiment and conduct, I ſeem in any inſtance to have gone too far, and hereby provoke any degree of cenſure or diſlike in the reader, he will, I hope, yet have the candour to believe the following declaration; which, if he do, his cenſure muſt abate, and, perhaps, he will be at peace with me, as I wiſh to be with all men.

I believe I have not declaimed againſt tyranny through diſlike to the men, who were the inſtruments of oppreſſion; I conceived it a duty I owed to the injured, with a ſenſe of whoſe ſufferings I was forcibly impreſſed; and when I was ready to ſhrink from the charge; when it would have been more pleaſing to my diſpoſition, to have complaiſantly declined cenſure, and to have amuſed myſelf with a tranquil hope, that prejudice was paſſing away, and that certain abuſes would not long continue; when it was painful to me to expoſe and cenſure what I had often lamented in ſecret, and I was ready to lay down the pen, and drop the ſubject, the viſionary ſcene of hoſts of the injured people, whoſe cauſe I was ready to deſert, ſtarted into the view of my imagination, I ſeemed inſtantly penetrated with their plaintive looks and deſponding ſighs, complaints, or groans, and no longer halted between two opinions.

Yet a little more egotiſm, and I ſhall have done. It is a method with me, in prints and books, to blot out, eraſe, or ſeal up with paſte and paper ſuch parts as I do not wiſh again to read or ſee, and to make a ſort of diſtinctive marks, at the parts which I think moſt excellent. This ſaves much time in after readings. Now, thoſe who do not approve of particular parts of this work, would, perhaps, find more ſatisfaction in thus demoliſhing what they do not like, than in minding much about the author. It is the mode I would recommend. Even the adopting of this practice, with many, would be the breaking through a prejudice, and might conſequently tend, in it's degree, to remove a timid, or hurtful bias, againſt change and reform. Perhaps conſiderable advantages would accrue to ſociety, if, in every houſe, a deſk were kept in order, with accommodations for writing, conſtantly ready, as a neceſſary piece of parlour furniture, for any perſon to write down their ſentiments as they occurred. Short and valuable tracts might ariſe, from the practice, and take the place of the huge and tireſome volumes, which have hitherto loaded our ſhelves, and frightened us from reading; and book-making would, perhaps, then ceaſe to be the job, or ſpeculation, it is at preſent; moreover, epiſtolary, as well as colloquial ſociality, might hereby be much promoted.

ELEMENTS

ELEMENTS

OF

GEOGRAPHY,

AND OF

NATURAL AND CIVIL HISTORY.

PART I.

ORDER OF THE SPHERES.

IN the remote ages of antiquity, ere man had made any great progress in science; in the yet uninformed nations of the world; among those people, in improved nations, who think on the nature of things but seldom, and then very superficially; and among the puerile reflections of the greatest geniuses; vague and romantic have been the conjectures respecting the form, extent, and boundaries of the earth.

From our imperfect view of things, we are naturally induced to suppose it necessary for every heavy body to have something to rest upon, or be suspended from; hence, some have imagined the stars to be lamps let down from heaven by golden chains; the sky, a vast arch; the earth, an extended plane, resting on they knew not what, and bounded they knew not how

SECTION I.

Of the Earth, Planetary Motions, Mechanics, Seasons, &c. Moon, Eclipses, Tides, &c.

1. *Figure of the Earth.*] It clearly appears, from the researches of men of science, that the land and water of our world, together form a large round body, which is balanced in the firmament, like the moon and planets; a globe of so prodigious a size, that its highest mountains are, compared to itself, but as a grain of dust on an artificial sphere; and, to us, little mortals, who dwell on its surface, its spherical figure is hardly discernible; yet without failing round the

world, as many have really done, we have ſufficient reaſon to conclude, with but little obſervation, that the earth is a globe, or of ſome ſimilar ſhape.

If we take a ſtand on the ſea ſhore, on a clear day, and view ſhips leaving the coaſt, in any direction whatſoever; as they recede from us, we may diſtinctly obſerve the rigging of the veſſels, when the hulls are quite out of ſight, as if ſunk in the waters. An obſerver in an evening, from the top of a hill, may diſtinctly ſee the ſetting ſun, when it appears to thoſe below, to have ſunk below the horizon; nay, a perſon ſwift of foot, when it has ſet to him below, may in ſome ſituations, by running up the hill, regain his view. Thus, when riſing, does it firſt tip the tops of the mountains with its rays; and thus do ſailors, on their firſt making land, diſcover the high parts of the coaſt, but not the very ſhore, till they are pretty cloſe in with the land.

Now, were the ſurface of the ſea an extenſive plane of waters, through defect of ſight only, thickneſs of atmoſphere, or ſome ſuch like cauſes, we ſhould loſe ſight of the objects, and then they would diſappear all at once. Moreover, at the time of a lunar eclipſe, which is produced by the earth's being between the ſun and moon, and thus intercepting the rays of the former from the latter, we have an indubitable proof of the rotundity of the earth from the form of its ſhadow, which is always bounded by a circular line.

2. *Antipodes and Attraction.*] If then this huge maſs of matter, this whole earth, be a globe or round ball, we may naturally enquire, from what does it hang, or what is there beneath to keep it up? How are things ſupported on its ſurface? And what miſerable people are our Antipodes, walking with their heads downwards?

No race of people on our globe walk with their heads downwards, though their faces may be directed to every part of the heavens, through their inhabiting the different parts of the ſurface of the round world; and our Antipodes walk as erect as we do, though their heads are diametrically oppoſite from ours; for they are as ſtrongly drawn to their part of the earth, as we are to ours; and might as reaſonably imagine that we are under the ſtrange predicament, of walking with our feet upwards, like a fly on a cieling.

It ſeems to be an univerſal law in the creation, that bodies have a mutual attraction, tendency, or gravitation, towards each other; and the heavier bodies are, and the nearer they are to each other, the more ſtrongly are they attracted. The cauſe is inexplicable from any enquiries in natural philoſophy, and can only be reſolved into the will of the Creator, whoſe works we may contemplate with wonder, but the leaſt of which we can never fully comprehend.

That this attraction exiſts, is deduced, not only from ſpeculation on the nature of things, but from actual experiment.

A weight ſuſpended by a ſtring from the precipice of a mountain, if undiſturbed by any current of air, or if it be perfectly calm, is obſerved to deviate from a perpendicular. The prodigious maſs of matter, contained in the mountain, attracts the weight towards itſelf.

In like manner, if two bundles of ropes of equal weight be ſuſpended at

at the ends of an accurate balance, or ſcale beam, on the ſurface of the earth, they will equiponderate; but if one of theſe ropes, inſtead of being rolled up in a bundle, be looſened out, and let to hang, at length, down the mouth of a deep coal pit or mine, the rope, thus extended, loſes ſome of its weight, though it hang perfectly free as before, from the end of the balance; and the rope that remains above, preponderates, through the other's being attracted by the ſides of the coal pit, in directions counteracting its perpendicular deſcent. May it not be owing to ſomething of this ſort, that ſoundings cannot be obtained at ſea beyond a certain depth; for if there were nothing to prevent the plummet from ſinking but the buoyancy of the ſtring, would not an increaſe of the weight, or of the ſize of the plummet cauſe it to ſink to the greateſt depth? And is not the weight of bodies neceſſarily the greateſt at the ſurface of the earth, from their having the whole of the earth's attractive force acting upon them downwards, contrary to the aſſertion, that the whole force of the earth's attraction is accumulated at it's centre? and perhaps the water in the lower parts of the ſea is compreſſed by the ſuperincumbent part, and is hereby rendered more denſe or heavy.

The principle of attraction ſeems to be, as a chain in the works of the creation, to bind the elements under harmonious order, and wholeſome laws; for it appears to be owing to this that the world remains a ſolid ball; the ſea keeps in the deeps of the earth; the mountains reſt firm on their foundations, and things univerſally hold their reſpective places.

By the ſame principle of attraction, the rivulets of water tumble from the hills, glide down the vallies, and ſettle in the deep. The air is an elaſtic fluid. It alſo gravitates towards the earth, becoming heavier the lower it deſcends; and, if there be any light bodies in the way, ſuch as ſmoke, miſt, &c. whether at large, or confined in balloons; any things lighter than itſelf; theſe naturally aſcend through the air's ſuperior gravity, to regions of equal rarity with themſelves; as the denſe water bears up light things from ſinking, while heavy bodies force their way to the bottom, in ſpite of all the reſiſtance the water can make.

3. *Diviſions of the Earth.*] The moſt obvious diviſions that preſent themſelves, on a view of the ſurface of our globe, are thoſe that are made by the yielding water on the crooked ſhore; theſe are outlines in ſome meaſure fixed and permanent.

A Continent is a large tract of land not ſeparated by the ſea; as Europe, Aſia, &c. An Ocean is a vaſt collection of water not ſeparated by land; as the Atlantic, Pacific, &c. A Sea is a ſmaller collection of water communicating with the ocean; as the Mediterranean, the Baltic.

An Iſland is a tract of land ſurrounded by water; as Great Britain, Ireland, &c. A Lake is water ſurrounded by land; as the lake of Geneva.

A Cape or promontory is a point of land running far into the ſea; as the Cape of Good Hope. A Bay is a part of the ocean running far into the land; as the Bay of Biſcay.

A Peninſula is land almoſt ſurrounded with water; as the Morea. A Gulph is a part of the ſea almoſt ſurrounded with land; as the Gulph of Venice.

An Iſthmus is the narrow part of land which joins the peninſula to any country; as the Iſthmus of Suez. A Straight is a narrow paſſage from one ſea to another; as the Straight of Gibraltar.

Geographers have uſually divided the world into four quarters; Europe, Aſia, Africa, and America. If we take Europe, by much the ſmalleſt diviſion, as a place of departure, America lies to the weſt, Aſia to the eaſt, and Africa, to the ſouth. America is called the New World by Europeans, from their having but lately diſcovered it; the other quarters, they call the Old World. America is ſeparated from the old world, on the weſt by the Atlantic Ocean, on the eaſt by the Pacific, and ſtretches through every inhabited latitude or climate of the earth.

The ocean, with which the earth is encompaſſed, is divided into five principal parts; the Atlantic, having Europe and Africa, E. and America W.; the Pacific between Aſia and America; the Eaſtern or Indian, which waſhes the Eaſtern coaſt of Africa, and the ſhores of Aſiatic India; the Northern, through which the paſſage to the Pacific has been attempted from Europe in vain, and the Southern, which is blocked up with ice in ſtill lower latitudes. The ſeas are more than three, or nearly four, times the extent of the land, and of the moſt extenſive quarters of the world, we know little more than the coaſts. The four quarters of the globe are computed to bear nearly the following proportion to each other: If Europe be 1, then Africa will be 3, and Aſia and America more than $3\frac{1}{2}$ each.

Men of ſcience have laid out the earth in degrees of longitude and latitude, and divided it into zones and climates.

Beſides theſe, there are other diviſions of a more fluctuating kind; ſuch are the political boundaries that ſeparate kingdoms and empires; and, however we may diſregard them as delineated on the geographical chart, they have generally been marked out by the ſword of the conqueror, at the expence of the blood and carnage of his fellows.

Kingdoms, provinces, towns, &c. are diviſions of the earth, that change with the affairs of the nations that have made them; and accordingly, in different ages, they vary their appearances.

4. *Hiſtory of Geography.*] Our knowledge of the different parts of the earth, we have derived from the accumulated obſervations and diſcoveries of diſtant ages and different countries. We may reckon Moſes and Homer, among the geographers of the moſt early times; but the places and the people, mentioned in their writings, are generally now no more. The Macedonian Alexander employed engineers in his ſervice, whoſe buſineſs conſiſted in meaſuring and keeping an accurate account of his marches. Theſe were extended into India, the borders of Scythia, through Judea and Egypt. By reducing Tyre and Sidon, the Greeks informed themſelves of the places to which the Phenicians traded by ſea. Ptolemy Evergetes led his armies into Abyſſinia, and thereby obtained a knowledge of that diſtant country. The conqueſts of the Romans added both extent and correctneſs to

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the geography of the ancients. The great roads of their extenſive empire, meaſured through their whole extent, proved extremely uſeful; and the Itineraries afforded conſiderable aſſiſtance. Accordingly, the geographers of thoſe times, were enabled to deſcribe countries before hardly known, and correct the errors of former writers. Their knowledge of the earth's ſurface, however, was but little, if compared with the diſcoveries of the later Europeans. In the fifteenth century, the Portugueſe opened the way to the Pacific by the Cape of Good Hope. The Spaniards afterwards attempted the paſſage to India, on the weſt, under Chriſtopher Columbus; but inſtead of India, they diſcovered America. It might ſeem ſuperfluous here, to enter into a detail of what followed: how the other European powers embarked on ſimilar enterprizes; how they have penetrated into every habitable climate on the earth; and how they have often abuſed their ſuperiority among artleſs and feeble nations. In ſhort, from the travels of miſſionaries, and adventurers, and from the voyages of navigators, we have now an acquaintance with every quarter of the globe.

5. *Univerſe.*] The principle of attraction, by which the order of ſublunary things is kept up, ſeems to uphold, not only the component parts of the earth, but the globe itſelf, and the whole univerſe.

The earth is a planet; it and ſix other primary ones, move round the ſun, in orbits, nearly circular; two of them within the earth's orbit, and four of them without: ſome of them have ſecondary planets, ſatellites, or moons, accompanying and moving round them in their orbits, as our earth has one moon: the comets alſo move round the ſun: all theſe together ſeem to complete our ſolar ſyſtem.

From the motion of the earth on its axis, and from its orbit round the ſun, are derived all the changes of night and day, and the viciſſitudes of the ſeaſons that we experience; and as the other planets are ſubject to the ſame phyſical laws as our earth, aſtronomers conclude, that they have their ſeaſons, their days, and their nights, as well as our earth; as alſo inhabitants ſuited to their reſpective regions.

It is conjectured, that the fixed ſtars are all of them ſuns. They are called fixed, from their being comparatively ſtationary. They do not ſeem to wander like the planets; yet a motion has been diſcovered in ſome of them; and it is ſuppoſed that they may, even all of them, be in motion.

It is alſo thought probable that planets may revolve round them, though, from their immenſe diſtance from us, we cannot diſcover them.

The ſocial idea prevails, that theſe may be the manſions of beings ſuited to their places; to whom the Great Parent diſpenſes marks of his goodneſs as well as to us. And indeed, from the immenſe diſtance that the fixed ſtars are from us and our ſyſtem, it may not be inconſiſtent with the truth to believe, that thoſe huge vivid globes, loſt to our view in a point, were created to ſupport and cheer other creatures, rather than merely to guide us in our little peregrinations on the globe, or to aſſiſt us in our aſtronomical obſervations.

6. *Centripetal and Centrifugal Forces.*] It is ſuppoſed, that a mutual attraction exiſts between the ſun and fixed ſtars, or ſuns, by which they are all poiſed in equilibrio; that the ſuns are a ſort of centres of gravita-

tion to the planets that ſurround them; that the attraction or centripetal force, which would alone draw them to the centre, is nicely combined with an impulſe which theſe bodies have received, and which of itſelf, and unreſtrained, would cauſe them to fly off in a right line through the immenſity of ſpace: this impulſe is called the centrifugal force: that by the combination of the centripetal and centrifugal forces, the planets are naturally carried in orbits round the ſun; that the primary planets are as centres of gravitation to their ſatellites or moons; and they account for the revolution of theſe from the ſame phyſical laws.

It is obſerved in the natural world, that matter is of itſelf paſſive, indifferent as to motion or reſt; that hence, were a body put in motion, it would continue to move on a right line, without end; or if it were at reſt, it would for ever remain ſo, unleſs there were ſome active cauſe to produce a change.

Fig. 1. Let A. be a body uninfluenced by the attraction of any other body; let us ſuppoſe that it receives an impulſe that would carry it in a certain time to B. if at the ſame time it receive a contrary force of equal ſtrength, that would alone in the ſame time carry it to C, the contrary impulſes will neutralize each other, and the body will remain at A; but if, with the original impulſe that would have carried it from A. to B. if not interrupted, it receive at the ſame time a force that would of itſelf carry it from A. to D. the body will move in or deſcribe the diagonal A E. from the combinations of the forces A B. and A D. and will at the end of the certain time, be exactly at the ſame diſtance, as when it firſt ſet out from the places B. and D. where the acting forces reſpectively tended to carry it, if the forces be equal. But, if the impulſes A B. and A D. be unequal, fig. 2. the body will be found at the ſame diſtance from the more remote place of tendency B. as it was from the nearer D. and at the ſame diſtance from the nearer place of tendency D. as it was from the more remote one B. on its firſt ſetting out from A. When the forces are equal, the diagonal A E. or motion produced by the combination of the two impulſes, according to the directions of the force applied, vary through every degree of ſwiftneſs, from abſolute reſt, to the aggregate of both velocities, added together, or produced in one right line. When the impulſes are unequal, the ſwiftneſs of the body will vary, according to the direction of the forces, from the ſum of the two velocities added together, to that of the greater, when the leſs is ſubtracted from it.

Fig. 3. From theſe known principles of matter put in motion, it is diſcovered how and why the planets move in orbits round the ſun. Let S. repreſent the ſun; E S. the attractive force whereby the earth is drawn towards the ſun; E E. the centrifugal impulſe: by the combination of theſe two forces acting at the ſame time upon the earth (or it may as fitly be ſaid, between the conflict of the two) it would naturally move along the line E E. in the ſame time it would have moved along either of the other lines ſingly; but as the centrifugal and attractive forces act not by ſtarts, but uniformly and conſtantly, the earth, inſtead of being moved along in right lines, is naturally reſolved into a curved one, or orbit E O E.

It

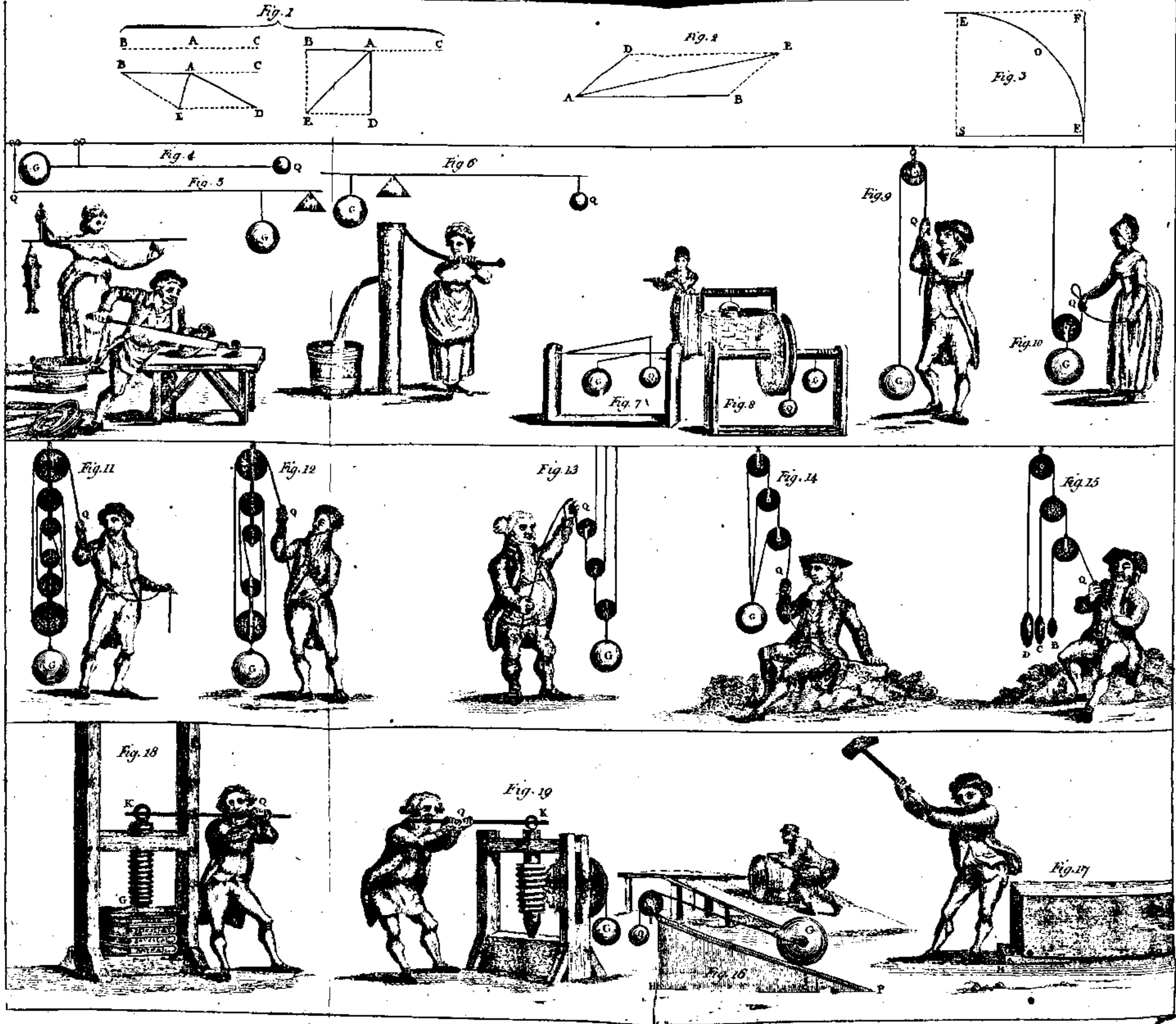
Fig. 1
B A C
B A C
E D
B A C
E D
Fig. 2
D E
A B
E F
O
Fig. 3
S E
Fig. 4
G Q
Fig. 5
Q
Fig. 6
G
Q
Fig. 7
Q
Fig. 8
Q
Fig. 9
Q
G
Fig. 10
G
Fig. 11
Q
G
Fig. 12
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Fig. 13
Q
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Fig. 14
Q
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Fig. 15
Q
D C B
Fig. 16
G
P
Fig. 17
Fig. 18
K
Q
G
Fig. 19
Q
K
G

It may here be remarked, however, that the ſun is not ſtrictly a centre of gravitation to the planets, nor are the primary planets, that have moons or ſatellites accompanying them, ſtrictly centres to the orbs that revolve round them.

From the inexplicable law of gravitation or attraction, that univerſally prevails in the natural world, it may readily appear, that if the ſun and the earth were the only bodies in the univerſe, and they at reſt at a diſtance from each other, by their mutual attraction they would directly be drawn towards each other. The ſun being a million times bigger than the earth, the latter (as a light ſkiff drawn to a large veſſel) would move with great velocity, and fall to the ſun; the ſun would ſlowly meet the coming of the earth. As each would thus be influenced by the other, ſo the centrifugal force which, combined with attraction, carries the earth round in its orbit, and prevents it from falling into the ſun, alſo carries the luminary round in an orbit, and prevents it from falling to the earth; and the centre of their revolution, or their centre of gravity, lies between the two bodies. As the earth is but very ſmall in compariſon with the ſun, it is carried round in an orbit, proportionably larger than that of the luminary, and their common centre of gravity lies conſequently very near the centre of the ſun. The ſame laws hold between the ſun and other planets, and between the primary planets, and their ſatellites, or moons.

7. *Mechanics.*] On theſe principles, which ſupport the order of the ſpheres, the ſcience of mechanics wholly depends; and in a very ſlight view of the mechanical powers, there ſeems a familiar repreſentation of the natural laws of the univerſe.

The mechanical powers have been reckoned ſix; the lever or balance, the wheel and axis, the pulley, the wedge, the ſcrew, and the inclined plane. The three latter may be conſidered as different modifications of the principles of the inclined plane; the three former, the ſame of the balance or lever.

It is a law in mechanics, that whatever be the force of the power applied, it can produce no more than a certain effect. This effect therefore, is only differently modified by all the various contrivances of machinery. By ſome machines velocity is acquired; but what is gained in ſwiftneſs or time, is loſt in power. By others an increaſe of force or ſtrength is gained; but what is acquired in power, is loſt in velocity or time. So the effect remains ever only equal to the force applied, whether the weight of a ſtream of water, as in mills; the expanſion of ſteam, as in fire-engines; whether the ſtrength of a horſe, the force of a man's arm, or any other thing. If therefore we conſider two weights, as the contrary force applied to any of the mechanical powers or machines, in whatever proportion the greater exceeds the leſs; if, in the ſame proportion, the riſe or fall of the leſs exceed the aſcent or deſcent of the greater, when the inſtrument is put in motion, the weights, however different their magnitudes may be, will themſelves naturally equiponderate, if the machine be at reſt. Thus in the inſtruments or machines Fig. 4, 5, 6, 7, 8, &c. when put in motion, if the weight G. be to the weight or power of the hand, applied at Q, as the aſcent, deſcent, or motion of Q is to the riſe or fall of G. the

weight or forces G. and Q. ſhall, if left to themſelves, naturally balance each other.

All the mechanic powers are ſubject, in ſome meaſure, to impediments from friction; but ſetting this aſide, and we may conſider the nature of theſe inſtruments only in theory.

The Inclined Plane affords a means of raiſing a weight with leſs force, than what is equal to the weight itſelf. Suppoſe it were required to raiſe the globe G. Fig. 16, from the ground H. P. up to the point whoſe perpendicular height from the ground is H. I. If the globe G. be drawn by a cord parallel to the plane I. P. let the cord be continued on and paſſed over the pulley; and let the weight Q. be hung to it, or a hand may be applied to it. Now if the weight G. bear the ſame proportion to the globe Q as I P bears to I H; i. e. as the fall of Q bears to the direct aſcent of G from the ground, the ſmaller weight or force of the hand at Q will ſupport the globe G.

The Wedge may be conſidered as two inclined planes, joined together obliquely, for gaining power. When a wedge is put under any weight to raiſe it up, Fig. 17. the force with which the wedge will lift the weight, when driven under it by a blow on the end G A B, will bear the ſame proportion to the force wherewith the blow would act upon the weight, if directly applied to it, as the velocity which the wedge receives from the blow, bears to the velocity wherewith the weight is lifted by the wedge; i. e. as the length of the wedge is to the utmoſt thickneſs G A B, and the ſame proportion holds in cleaving timber, or producing any ſimilar effect.

The Screw may be conſidered as an inclined plane, twiſted round a roller; ſometimes it is double, treble, or fourfold; or it has two, three, or four threads, or twiſted inclined planes. There are two ways of applying this inſtrument. Sometimes, Fig. 18. it is ſcrewed through a hole or box, fitted to the ſcrew or pin. Sometimes, Fig. 19. it is applied to the teeth of a wheel fitted to receive it. In both theſe caſes, if a bar Q K be fixed acroſs the ſcrew, the force wherewith the end G of the ſcrew, Fig. 18. preſſes, and the force wherewith G the teeth of the wheel, Fig. 19. are preſſed, bear the ſame proportion to the power Q applied to the end of the bar, as the velocity of the end of the ſcrew, or of the teeth of the wheel, bears to the velocity of the power Q when the ſcrews are turned.

It is eaſy to eſtimate the effect of the pulley, ſimple or combined.

In Fig. 9, where the weight hangs from one ſtring, the power E. ſuſpends a weight equal to itſelf. In Fig. 10. where the weight hangs from two, the power Q holds a weight double of itſelf. In Fig. 12. where the weight hangs from five, the power Q balances five times its own weight. In Fig. 11. where ſix ſtrings ſupport the weight, the power Q ſuſpends ſix times itſelf.

There are too other ways of ſupporting a weight by pulleys; one of theſe is repreſented in Fig. 13. Here the weight being connected to the pulley B, a power equal to half the weight would ſupport the pulley C, if applied immediately to it. A power only equal to half of that which ſupports C would ſupport D, but half of this laſt power applied as

at

Fig. 21

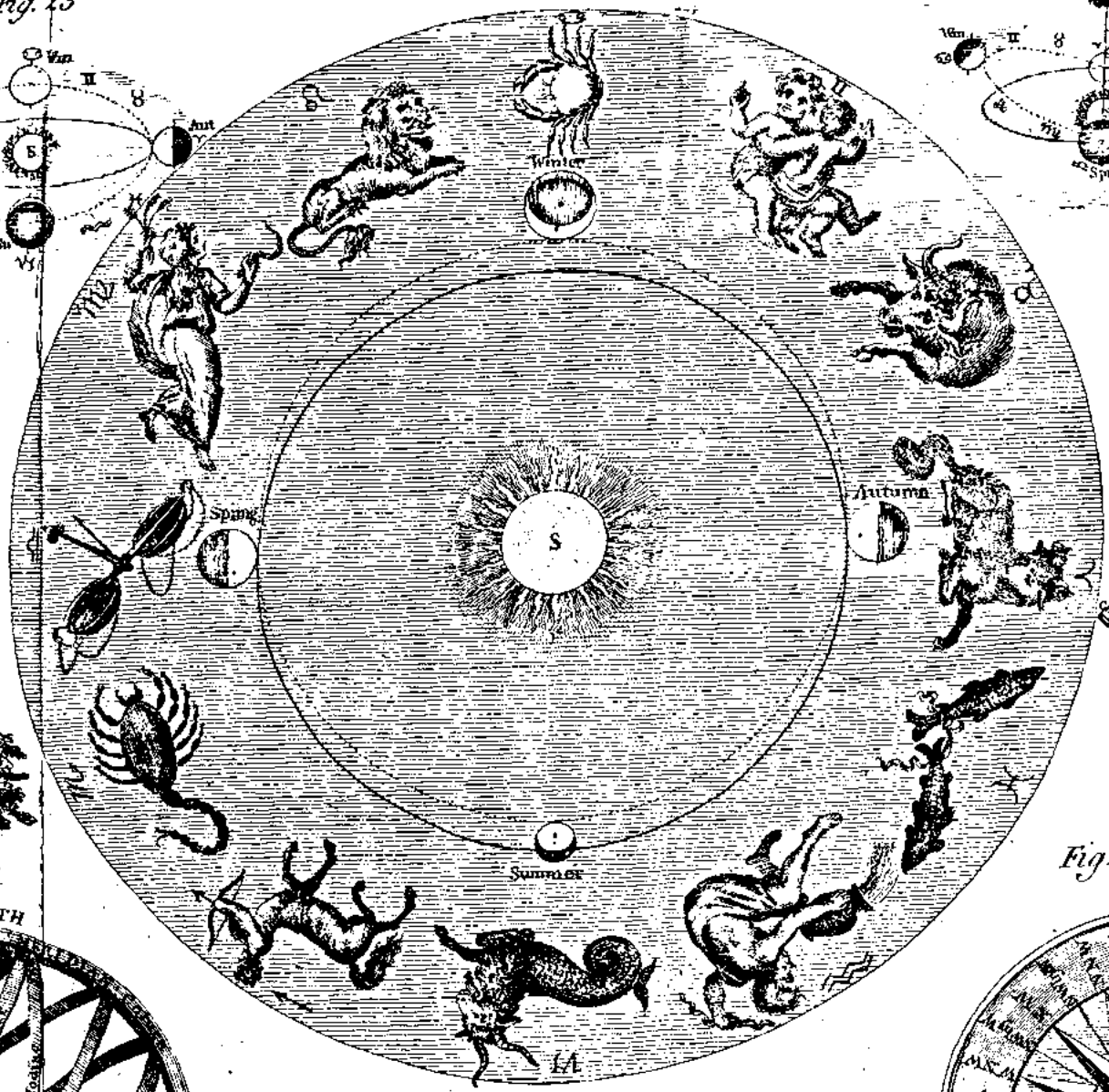


Fig. 23

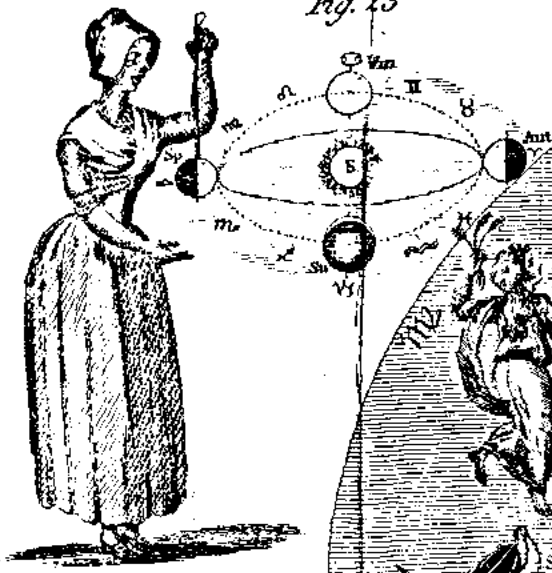


Fig. 22

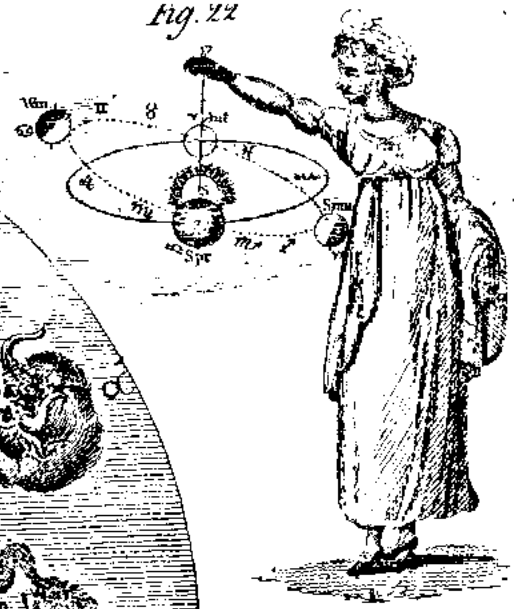


Fig. 24

Fig. 29

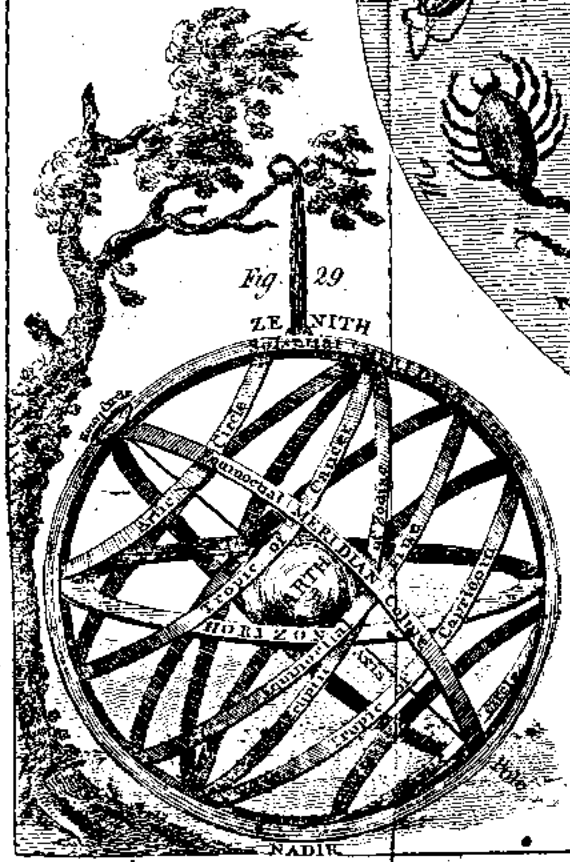


Fig. 25

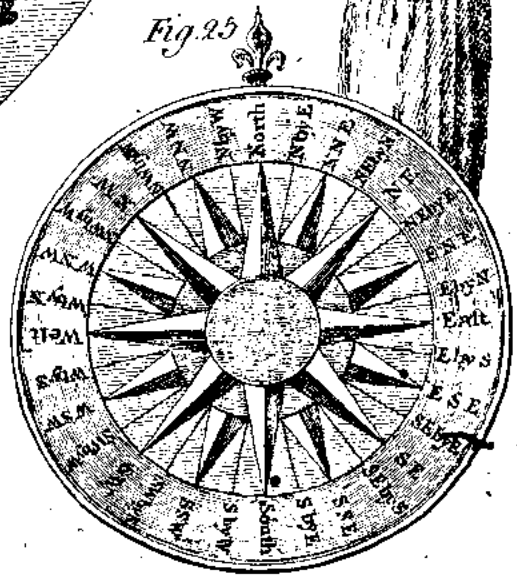


Fig 26

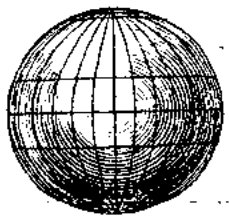


Fig 27

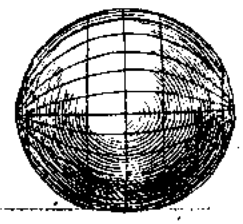
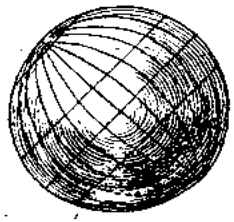


Fig 28



at Q suspends D, and consequently the weight G; the power, therefore, at Q holds eight times itself, applied at G.

Another way of applying pulleys to a weight, is represented in fig. 14. To explain the effect of pulleys thus applied, it will be proper to consider different weights hanging as in fig. 15. Here, if the power and weights balance each other, the power Q is equal to the weight; B C is equal to both together; and D is equal to the power Q and the other two weights. All the three weights together, then, are equal to seven times the power Q. But if these three weights were joined in one, they would produce the case of fig. 14. so that in that figure the weight G, where there are three pulleys, is seven times the power Q. If there had been but two pulleys, it would have been three times; and if four pulleys, fifteen times the power.

The Lever is generally understood to be a bar made use of for moving great weights, or effecting some great force.

Fig. 5, 6. The bar is applied in one part to some strong support; this is called the fulcrum, and is the centre of its motion; the farther the power Q is applied from this centre, the greater must be its motion, but the greater weight will it raise at G; on the contrary, if we suppose G to be the power, and Q the effect, or the weight to be raised, the nearer the fulcrum the force is applied, the less will be its power, but the greater velocity will it give to Q. We may consider our own limbs as levers of this latter description.

A lever may be hung upon an axis, fig. 7. and then the two arms of the lever need not be continuous, but fixed to different parts of the axis, and the axis here must be considered as the fulcrum.

From this case of the lever hung upon an axis, it is easy to make a transition to the wheel and axis, fig. 8. Here the axes may be considered as fulcrums, and the wheels and rollers as levers, whose lengths are their semidiameters. By different combinations of the wheel and axis, many of the most complicated machines are principally made out; and the way of communicating motion from one wheel to another, is by means of teeth at the extremities of the wheels, or by cords or bands, as in the combinations of pulleys.

It has already been remarked, that no combinations of the mechanical powers, however nice or complicate, can increase the whole effect of the force applied; the force can only be modified into certain degrees of strength or velocity.

While we may read the laws, that govern the spheres, in the properties of any of these instruments, whether simple or complicated, they appear the most obvious in the simple lever, balance, or steelyard. If the two balls G and Q be connected together by an inflexible rod, steelyard, or lever, drawn from centre to centre, and the rod be so divided in C, that the part C G bears the same proportion to C Q as the ball Q bears to the ball G. then the rod being supported at C, suppose by a thread, will uphold the ball. Now if the thread be twisted, so as to make the balls turn round their common centre of gravity C, it is evident, that the smaller ball will perform a larger circle than the greater; in fact it will be carried round the orbit of the greater. So

it is with the moon moving round the earth, and ſo with the earth revolving round the ſun, accompanied by the moon.

8. *Changing Seaſons.*] Fig. 20, The earth turns round on its axis, at the ſame time that it moves in its orbit round the ſun. This revolution is performed in the ſpace of twenty-four hours. As any part of its ſurface is turning to the ſun, to that part the luminary ſeems to riſe; and it is morning to the inhabitants; turned oppoſite to the ſun, they enjoy noon; turning from the ſun, it ſeems to ſet, and they have evening; and turned from the ſun, they are involved in ſhadow, which is night.

From the rotundity of the globe, the ſun darts its rays direct on the heads of ſome, while on others it ſhoots its beams very obliquely: hence the polar regions are rendered uninhabitable through extreme cold, while the nations of tropical countries, or thoſe directly under the ſun's rays, are coloured black through intenſe heat.

In the different parts of the world, from the equinoctial to the poles, or terminations of the axis of the earth, their days and nights vary in length, from the ſame cauſe which produces the ſeaſons.

At the poles, day and night alternately ſucceed each other, at intervals of ſix months; for during all the time between the vernal and autumnal equinoxes, or while the earth is moving from ſpring to autumn, when the ſun is no longer viſible at the ſouth pole, it gives continual day to the arctic regions; and, the remaining part of the year, it's dreary waſtes are involved in night, while the antarctic, or ſouth pole, is in the glare of perpetual day.

Were the earth to move round the ſun with its axis perpendicular to its orbit, a regular ſucceſſion of equal days and nights would uniformly take place in the different parts of the earth; for the ſun illumines half the globe at once, fig. 20, and every part of it's ſurface would alternately experience a change of twelve hours light and twelve hours darkneſs, from pole to pole; but the axis of the earth is found to incline $23\frac{1}{2}$ degrees from a line perpendicular to the plane of it's orbit, and it keeps the ſame oblique direction throughout it's annual courſe: hence the days and nights vary in their length, at different times of the year; and hence the changes of the ſeaſons ariſe.

In fig. 21, 22, 23, let the circles E. Q. repreſent the equator, and E. C. the ecliptic, or the annual path or orbit of the earth, and we may eaſily ſee that the earth has day and night impartially and equally diſtributed all over its ſurface, only when it is at Sp. or Aut. in its orbit, where the equator and ecliptic interſect each other. In its moving from Win. by Sp. to Sum. in its orbit, we, the inhabitants of the northern hemiſphere, have the days increaſing in length, and weather growing warm; while thoſe of the ſouthern hemiſphere experience exactly the reverſe. In its moving from Sum. by Aut. to Win. we have days decreaſing, and weather growing cold, while the inhabitants of the ſouthern hemiſphere enjoy lengthening days, and increaſing warmth.

In fig. 21, 22, 23, let S. repreſent the ſun; the four globes, the earth in different parts of its orbit, receiving from its changing poſition, the varying ſeaſons of ſpring, ſummer, autumn, and winter, as it would appear to the eye ſituated, fig. 21. between the ſun and polar ſtar; conſequently, the pole of the earth towards the eye; fig. 22. be-

yond the earth's orbit, at the autumnal equinox. Fig. 23. beyond the earth's orbit at the eſtival ſolſtice, or midſummer. If the ſpot on the globes be ſuppoſed to repreſent Ireland, we may eaſily ſee how equally light and darkneſs would be diſtributed to it at the time of the equinoxes, or in ſpring and autumn; how ſmall a ſhare of ſunſhine it would be turned into in winter; and how ſhort a time it would be obſcured in ſhade, or night in ſummer. Theſe things may be all pleaſingly exhibited beyond all deſcription, by an eaſy experiment. If a couple of hoops be fixed in the direction of E. Q. and E. C. fig. 22. and a candle placed as at S. we may, by ſuſpending an artificial ball from a thread, as Sp. from H, and moving it eaſily along the hoop E. C. be agreeably entertained with a pretty miniature repreſentation of all the changes of day and night, and the varied ſeaſons naturally produced on its ſurface, by the rays of the candle ſtriking on it, as it riſes or falls in the different parts of its orbit or hoop, and as it naturally revolves on its own axis, by its touching the hoop; or we may make the ſame exhibition without uſing the hoops, by gently twiſting the thread, to make out the viciſſitudes of night and day; taking care to raiſe and lower the hand at proper intervals, to mark the changes of the ſeaſons, as we carry the ball round the candle.

9. *Apparent irregularities.*] The firmament appears to be the part of creation where the greateſt order, ſimplicity, and regularity prevail. By the motions of the ſpheres our ideas of time are entirely regulated, and all it's diviſions depend on their regular revolutions, or ſtated returns; yet even here we meet with difficulties in every attempt to inveſtigate the preciſe order and magnitude of the ſhining orbs: we call them irregularities; ſuch they appear to us, creatures of a day, and all the doctrines of aſtronomy, eſtabliſhed with the greateſt accuracy on the niceſt obſervations, and the moſt laborious inveſtigation, are, and muſt for ever be, incompetent to diſcover and tell where the regular confuſion ends: moreover, placed as we are in a denſe and changing atmoſphere, we ſcarcely ever ſee the heavenly bodies as they really are. When they are not vertical, or directly over our heads, their ſituation is not exactly the ſame it appears to be: from the refraction of the atmoſphere they appear higher than they really are.

10. *Orbits elliptic, Time unequal.*] Hitherto we have conſidered the ſun and the earth as regularly moving round one common centre of gravity; however, as there is a number of planets in our ſyſtem, revolving continually, like our earth, round the luminary and in different periods of time; the ſun may be more fitly conſidered as agitated round their ſeveral centres, accordingly as it is attracted by them in their different directions; nor are their orbits round the ſun perfectly circular, but elliptical, the planets ſometimes receding from, and ſometimes approaching nearer to the ſun.

If a thread be tied looſely round two pins ſtuck in a table, and moderately ſtretched by a black-lead pencil, carried round in an upright poſition, an oval or ellipſis will be deſcribed by the point of the pencil; the two points where the pins are fixed are called the focuſes, or foci: a line drawn through the foci to the periphery, is the longeſt or tranſverſe axis, and equals in length any two lines drawn from each

of

of the foci, and meeting at the periphery. The eccentricity of a planet is the diſtance between it's centre and either of it's foci.

Beſides the changes in the length of the days already deſcribed in the different ſeaſons, there is another ſort of change, not ſo obviouſly noticeable. The day and night together, or, in general, 24 hours, form the natural, or ſolar day, and this period of time alſo varies in it's length. The inequality of the ſolar day is produced by two cauſes, either of which ſingly would yield the effect; theſe are the obliquity of the ecliptic, and the earth's unequal motion therein. The earth's motion on it's axis being uniform and equal at all times of the year, it's days would be equal, if its orbit were a perfect circle, and it's axis perpendicular to the plane of it's orbit; but the earth's diurnal motion in an elliptic orbit, cauſes the ſun's apparent motion in the heavens to be equal. When the ſun's annual motion in the heavens appears ſloweſt, it is noon, or 12 on the ſun-dial, before it is the ſame hour on a true-going clock; and when quickeſt, it is 12 by the clock before the ſun be over our meridian.

Although the earth be ſaid to complete an orbit round the ſun in the courſe of a year, it does not return exactly to the place it ſet out from, neither is it's circuit completed exactly in a year. Adopting, therefore, the apparent motion inſtead of the real; if the ſun ſet out as from any ſtar, or other fixed point in the heavens, at the moment it is departing from the equinoctial, or from either tropic, it will come to the ſame equinox, or tropic again, 20 min. 17½ ſec. of time, or 50 ſec. of a degree, before it completes it's circuit round the heavens, ſo as to arrive at the ſame fixed ſtar or point from whence it ſet out; for the equinoctial points recede 50 ſeconds of a degree weſtward every year, contrary to the ſun's annual progreſſive motion. This is what is called the Preceſſion of the Equinoxes.

When the ſun arrives at the ſame equinoctial or ſolſticial point, it finiſhes what we call the tropical year; which, by obſervation, is found to contain 365 days, 6 hours, 9 minutes, 14½ ſeconds.—The civil year, which we ſtate at 365 days, 6 hours, is almoſt a mean between the ſiderial and tropical. As this year exceeds the ſolar, tropical, or we may ſay, the true year, the difference being 11 minutes, 3 ſeconds, an anticipation of the equinoxes, and conſequently of the ſeaſons takes place, by a day being intercalated every fourth year, which in 1433 years amounted to 11 days. This was the error which was rectified by the change of the ſtyle.

11. *Changes in the Solar Syſtem.*] The preceſſion of the equinoctial points in the heavens occaſions a ſlow and continual deviation of the earth's axis from it's parallelism, and thereby a change of declination of the ſtars from the equator, together with a ſlow apparent motion of the conſtellations of the zodiac forward with reſpect to the ſigns of the ecliptic, inſomuch that the ſign of Aries is now in Taurus, that of Taurus in Gemini, &c. and thoſe ſtars which roſe or ſet at any particular ſeaſon of the year in the time of Heſiod, Eudoxus, Virgil, Pliny, &c. do not now anſwer to their deſcriptions.

The earth's axis being 23½ degrees inclined to the axis of the ecliptic, the poles of the earth being pointed to the heavens, deſcribe two circles

circles 47 degrees in diameter round the poles of the ecliptic, by the deviation of it's parallelism; a revolution which it requires 25,960 years to complete. The sun in the same part of the heavens as seen from the earth, when it yields to us the summer, would in half this period give the longest days to the southern hemisphere; and at the completion of it, and not till then, would the stars be in the same situation from our earth that they are in at present.

The orbits of all the planets do slowly but continually change by the influence of the sun; moreover the planets themselves accelerate and retard each other's motions, and change each other's orbits; so that the spheres, perhaps, are never, no, not for an instant, in any one part of the immensity of space where they have been before; and must hereby baffle every attempt to form a perfect system, or to tell the precise order of their continual change.

The obliquity of the ecliptic to the equinoctial has been found to decrease gradually from the times of the earliest observations; hence the seasons on our earth become less and less diverse. It is thought also that the mutual attractions of all the planets have a tendency to bring their orbits to a coincidence: but this change is too small to become sensible in many ages.

12. *Refraction of Light.*] From what has hitherto been advanced respecting light and shadow on our earth, or day and night, it should seem that they are equally distributed over all its parts; but it is to be observed that the measure of light is the greater, exclusively of what we derive from the firmament in the night. When the sun is below our horizon, it's rays, by being refracted by our atmosphere, afford us the crepuscle, or twilight, and from the same cause it actually appears sooner in the morning, and later in the evening, than it really is above the horizon; from this cause also the sun and the full moon, when on the horizon, do not appear perfectly circular, their vertical diameters seeming rather less than their horizontal ones: they also appear larger to the naked eye than when they are more elevated; but this seems to be an optical deception.

When these orbs are on the horizon they appear to be farther distant, and if they are seen under the same angle, or of the same real magnitude, we naturally think them larger. A large ball on a lofty spire has but a diminutive appearance, compared with what it would have, if lying on the ground at the same distance from the eye: in the former instance it's distance seems less to us than it really is; in the latter, being accustomed to measure the ground in walking, &c. we make a proper allowance for the distance, and form a tolerably precise idea of it's real magnitude; and if an observer look stedfastly on the rising or setting sun, till he lose sight of the intervening landscape, which gives the idea of superior distance, he may find the luminary appear not larger than it does when on his meridian.

13. *Motion of Light.*] Besides the changes already mentioned, real or imaginary, or, in other words, mechanical or optical, in the order of the spheres, there has been another discovered, which is rather a minute one: this gives a small apparent motion to the fixed stars; it

is

is thought to be occaſioned by the aberration of their light, and to evince to a demonſtration the annual motion of the earth.

The times wherein the Jupiter's ſatelites perform their orbits round that planet are known, and the inſtant when any of them will be eclipſed is calculated; but it is conſtantly found that the eclipſe happens about 16 minutes ſooner, when our earth is in that part of it's orbit neareſt to the eclipſe, than when it is on the oppoſite ſide: and it is hence inferred that light takes 8 minutes in coming from the ſun to the earth a diſtance of 95,000,000 of miles.

14. *Aberration of the Stars.*] The orbit of the earth is ſo ſmall a circuit in compariſon with the diſtance of the ſtars, that their appearance is the ſame from all the different parts of it. But, on ſome very accurate obſervations on the paralax of certain ſtars in the zenith, they ſeemed to vary in their ſituation; and, this change of place has been referred to the motion of light. A ſtar coming to the zenith at ſix in the morning is found, in this part of the world, to appear farther diſtant from the north pole than when it arrives there at ſix in the evening; theſe are the hours of their greateſt apparent diſtance north and ſouth. When they paſs the zenith in the day, they appear to move ſouthward from day to day, till reaching the zenith at ſix in the morning, they become ſtationary at their greateſt diſtance ſouth; and after this, from night to night, they ſeem to move northward, till coming on the zenith at ſix in the evening, they become, for a little while ſtationary, again, at their greateſt diſtance north. A nutation in the earth's axis it is obſerved would not produce theſe appearances, as the change in the different ſtars is not equal. The ſmall apparent aberration of the ſtars is attributed to, or is called the aberration of their light. It is ſaid, if light were inſtantaneous, we ſhould always ſee the ſtars where they really are; but, the motion of light being progreſſive, they ſometimes appear to us, as we move along in our orbit, in a ſituation rather different.

The ſimple obſerver will readily comprehend, that, if water were to drop from a veſſel, paſſing at a conſiderable height over his head, it's deſcent not being inſtantaneous, but progreſſive, it would not fall on his head when the veſſel was directly over him, but ſome time after it's paſſing his vertex: in like manner, if a ſtar, ſhedding it's light, were to move along, the impreſſion of it's rays would continually be received in the eye, when it had paſſed the place whence the rays iſſued; the ſtar would always appear leſs advanced on it's way than it really was, unleſs the motion were directly to or from us. But how theſe effects could take place, while the ſtar was at reſt, and we only in motion, is not ſo eaſily conceived; perhaps we ſhall here have to make a ſtand, with whatever diffidence, and to doubt the preciſion of this doctrine of the aſtronomers.

It is not pleaſant in our inveſtigations to meddle with the inſtruments of death: they ſtain the philoſophic page, and deform the landſcape where they appear; it would be agreeable to caſt a veil over them: they have, however, been uſed in the illuſtration of the laws of projectiles, and, availing ourſelves of them, in an imaginary way, perhaps we may ſee, in an eaſy example, a ſufficient cauſe of objec-

tion

tion to, if not a pretty clear refutation of the doctrine of the aberration of light. If, then, a veſſel were paſſing a fort with velocity, and a ball were fired from the veſſel to the fort; the ball would not ſtrike the fort, till the veſſel had left the place from which the ball ſet out: If the ſhip were inſtantly ſtopt on the balls reaching the fort, the line which the ball had deſcribed would not connect the two objects; but if a ball were fired at the veſſel from the fort, and the veſſel were inſtantly ſtopt, the line which the ball had deſcribed would connect the ſhip and fort: in like manner, as the ſtream of light is continual from the ſtars, perhaps their rays always, when not refracted in their courſe, give us exact information of their place. Perhaps it is owing entirely to refraction that the ſtars appear to vary in their ſituations, as has been deſcribed. To tell how the refraction is produced, and why it is regular may be an inſuperable difficulty; but, as it is generally expected, though not a reaſonable requiſition, that in attempting to ſet aſide one hypotheſis, another ſhould be offered, it may be remarked, in the firſt place, that the effect is ſo ſmall, that it may ſeem to require only a ſmall cauſe to produce it.

On our being informed that the earth turns round, and that it moves in an orbit, a queſtion very naturally preſents itſelf. How is it that the atmoſphere, which encompaſſes the earth, and is not faſtened to it, does not, by it's being ſtationary, the earth turning through it in it's diurnal motion, produce the effect of a conſtant eaſterly wind; or how is it that the foremoſt part of the earth's ſurface, in it's orbit, is not almoſt ſtript of it's atmoſphere, and the aërial fluid drawn out, on the oppoſite ſide, like the tail of a comet? On learning that the atmoſphere, by it's gravitation, is attached to the earth, and is carried along by it, like the ſea and other fluids, we perhaps may ſtill retain the plauſible, and, it is poſſible, the true idea, that the uppermoſt and fineſt parts of the atmoſphere may, in a very ſmall degree, be affected in this way; perhaps we muſt ſuppoſe ſo, if we at all doubt of the great intermundane ſpaces being vacua, if we admit in them the preſence even of a fluid of light, or of ether.

Now the meridian on our earth, on which it is ſix o'the morning, is the forepart of the earth in it's orbit, and that on which it is ſix o'the evening is the afterpart; and if the atmoſphere be deeper over the afterpart of the earth than over the forepart, muſt not we in this high northern latitude, on looking up at our zenith, at ſix in the morning, have a rather deeper atmoſphere northward, than we have ſouthward? And, muſt not this, by refraction, throw a vertical ſtar rather ſouthward? and if ſo, muſt not the effect, on the ſame principles, be exactly the reverſe in the evening? This, ſo ſmall a variation, it muſt be acknowledged, if it do exiſt, muſt be influenced by the changes of heat and cold, as well as by the aërial tides, which we ſhould expect, twice in the day, to increaſe and diminiſh the aberration of the ſtar in our zenith, if indeed, it after all, be produced by refraction.

15. *Moon, it's ſize, phaſes, ſeaſons, &c.*] The moon is called a ſatellite or attendant of the earth, going round it, from change to change in 29 days, 12 hours, 44 minutes, and $3\frac{1}{10}$ ſeconds; which, is called a lunation: but it completes it's orbit from one point in the heavens,

or from any given fixed ſtar to the ſame ſtar or point again, in 27 days, 7 hours, 43 minutes, and 4 ſeconds, moving about 2290 miles every hour. The moon's diameter is 2180 miles, and it's diſtance from the earth's centres 240,000.

It is full moon, when, the earth being between the ſun and the moon, we ſee all the enlightened part of it; change, when, the moon being between us and the ſun, its enlightened part is turned from us; and half moon, when the moon being in the quadratures, as aſtronomers call it, or half-way between the two other poſitions, we ſee but half the enlightened part.

Thoſe parts of the moon's orbit, where it is at change or conjunction, and at full or oppoſition, are called the Syzygies.

As the moon reflects the light of the ſun to the earth, ſo, if the moon have its inhabitants, our earth, in like manner, acts as a moon to them. And ſo great a light does it throw on the ſattellite, that it may be ſeen from the earth with the naked eye. There are few but who have obſerved of the moon, a while before and after the change, when we can ſee it only a little while in the morning or evening, that we then ſee its whole body diſtinctly. One ſide of it appears as a bright ſlender creſcent; but the principle part of it ſeems of a dark or dull, and ſcarcely diſtinct hue. The bright part of it is as the day-light of the moon; the dark part as the moon-ſhine reflected from the earth. We are told, that in Italy and other parts, where the air is clear, that the dark moon may be ſeen, or the moon at the change, when it riſes or ſets with the ſun. If this be the caſe, it muſt be from the light of the ſun reflected on it from the earth, which is at that time a full moon, affording 13 times as much light as we receive from the full moon. As the inhabitants of the moon, if ſuch there be, have a full moon when we have change, ſo they muſt have a waxing when we have a waning moon; or, in a word, all their lunar ſeaſons exactly the reverſe of ours.

If the moon be peopled, the lot of it's inhabitants muſt, in ſome reſpects, be different from ours. The moon turns only once round on it's axis, while it performs it's orbit round the earth: one ſide of it is conſequently always turned towards our earth, and receives ſucceſſively two weeks of moonlight from our earth, and two weeks of ſun; the other ſide, is two weeks in continual darkneſs, and two weeks in conſtant day. Their day and night then is a month in length; and they experience ſcarcely any diverſity of ſeaſons as we do, the axes of the moon being almoſt perpendicular to the ecliptic.

As the moon does not ſo ſenſibly decline from it's equator, as to produce a change of ſeaſons, it has been ſuppoſed that the lunarians may meaſure their year, by obſerving when either of the poles of our earth begins to be enlightened and the other to diſappear, which is always at our equinoxes; they being conveniently ſituated for obſerving great tracts about our poles, which are entirely unknown to us; that the year is of the ſame abſolute length both to the earth and moon, though very different as to the number of days; we having 365 days, while the lunarians have only 12; and that the moon's inhabitants, on the ſide next the earth, may as eaſily find the longitude of their places

as

Fig. 30

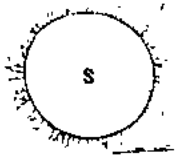
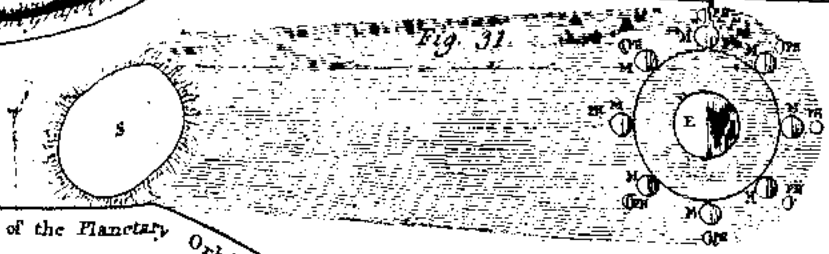


Fig. 31



View of the proportional Magnitudes of the Planetary Orbits.

Fig. 34

The SOLAR SYSTEM

Proportional Magnitude of the Primary Planets.

Of the Herschel ♅

Of the Saturn ♄

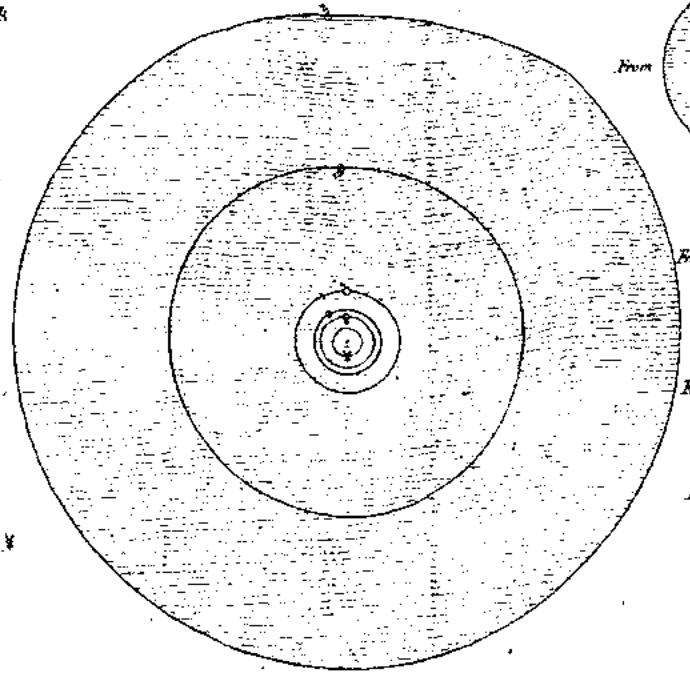
Of the Jupiter ♃

Of the Mars ♂

Of the Earth ♁

Of the Venus ♀

Of the Mercury ☿



Apparent Magnitude of the Sun *seen from each Planet.*

From ☿ *the* Mercury

From ♀ *the* Venus

From ♁ *the* Earth

From ♂ *the* Mars

From ♃ *the* Jupiter

From ♄ *the* Saturn

From ♅ *the* Herschel

N.B. The proportional Magnitude of the Sun with respect to the figures of the Planets here given is represented by the Circle of the Saturn's Orbit marked ♄

Fig. 32

Fig. 33

Fig. 35

Fig. 36

Fig. 37

Fig. 38

Fig. 39

Fig. 40

as we can find the latitude of ours. For the earth keeping conſtantly, or very nearly ſo, over one meridian of the moon, the eaſt or weſt diſtance of places from that meridian, are as eaſily found as we can find our diſtance from the equator by the altitude of our celeſtial poles.

The moon is ſufficiently near us, to give us an opportunity of obſerving, with the naked eye, inequalities on it's ſurface. By help of the teleſcope, they have been diſtinctly aſcertained, and conſidered as mountains and cavities, as land and water; aſtronomers have even given them geographical names, after the iſlands, countries, and ſeas on our earth, though without regard to ſituation or figure; and ſome have called them after the philoſophers. From the ſhadows projected on the ſurface of the moon, from it's eminences or mountains, aſtronomers alſo calculated their heights; they were concluded to be about nine miles high. From the clear appearance of the moon, it was imagined there were neither clouds nor vapours about it, from whence rain might proceed; that there was conſequently a ſeries of fine ſerene weather there. It was even thought propable, that the moon had not even an atmoſphere, becauſe the planets and ſtars, which were ſeen near it, had not their light refracted, as it is in paſſing through our atmoſphere. Later obſervations however appear to have been more accurate. The aſtronomer Herſchell, whoſe teleſcope magnifies ſix thouſand five hundred times, has reduced its higheſt mountains, a few excepted, by his calculations, to half about a mile. It ſeems he has alſo diſcovered three volcanos in the moon: the principal one, at the time of obſervation, was in a part of it's diſc, not then illuminated; he eſtimated it's diameter at about three miles. It ejected great quantities of ſmoke and lava; and it's light was ſo conſiderable, as to illuminate the hills in it's vicinity. The next lunation, he repeated his obſervations with the greateſt attention, but ſaw nothing of it: the other two ſeemed either to have been lately extinguiſhed, or to threaten an immediate eruption. Streaks of light have alſo been ſeen to dart inſtantaneouſly from different places in the moon, at the time of total darkneſs, during a ſolar eclipſe, which have been taken for lightning; all which circumſtances ſeem to ſhew the exiſtence of a lunar atmoſphere, and a remarkable ſimilitude between the moon and our earth.

16. *Solar and Lunar Eclipſes.*] Every planet and ſatellite is illuminated by the ſun; and caſts a ſhadow towards that point of the heavens which is oppoſite to the ſun.

An eclipſe of the moon, is when the earth, being in a direct line between the ſun and moon, Fig. 30. hinders the light of the ſun from falling upon, and being reflected by the moon. If the light of the ſun be kept off from the whole body of the moon, it is a total eclipſe; if from a part only, it is a partial one.

An eclipſe of the ſun, is when the moon, being in a right line between the ſun and the earth, hinders the light of the ſun from coming to us. If the moon hide from us the whole body of the ſun, it is a total eclipſe; if not, it is a partial one: when the moon changes at it's greateſt diſtance from the earth, it's dark ſhadow terminates in a point before it reaches the earth, and to the people immediately under it the

ſun's edge appears like a luminous ring all round the body of the moon, this is called an annular eclipſe. At the time of a total eclipſe the darkneſs is intenſe, the ſtars appear, and the brute creation, as well as ſuperſtitious obſervers, ſeem ſtruck with terror; but its duration is generally but for a moment, and, at the utmoſt, continues little more than three minutes of time.

Beſides the dark ſhadow of the moon, there is another fainter one, which encompaſſes it, called the Penumbra; and which is caſt with different degrees of ſhade upon thoſe parts of the earth which are only partially deprived of the ſun's rays.

The greateſt dark ſhadow of the moon covers only a ſpot on the earth's ſurface about 180 Engliſh miles broad; but the penumbra, or partial ſhadow, may cover a circular ſpace 4900 miles in diameter, and if it fall obliquely on our globe, it ſtretches out into an elliptical form.

The eclipſe always begins on the eaſtern ſide of the moon, and on the weſtern ſide of the ſun.

A Digit is the 12th part of the ſun's or moon's diameter, and is a term often uſed in ſpeaking of eclipſes. The Diſc of the ſun or moon is it's round face, which, on account of the great diſtance of the object, appears flat. The edge or border of the diſc is called the limb.

An Occultation is when a ſtar or planet is hid from our ſight by the interpoſition of the moon or a planet. The Immerſion of a heavenly body is the time when an eclipſe begins; it's emerſion is when it begins to reappear.

In fig. 31. let S repreſent the ſun, E the earth, and M the moon in the different parts of it's orbit. Here the balls P H, in the outer circle, repreſent the different phaſes, or appearances of the moon, in the different parts of it's orbit, to the inhabitants of the earth

All the phenomena of the moon's phaſes and eclipſes may be prettily exhibited in an eaſy experiment, with a candle and ball, fig. 32. Let S be a candle, repreſenting the ſun; B a ball, repreſenting the moon: let the head of the obſerver be conſidered as the ſituation of the earth. If the obſerver carry M round his head in an orbit, and keeping his eye on it, mark out the different phaſes in the different parts of it's orbit, at C it will appear a creſcent; at F full moon; at H half moon; and at D dark moon, or change. If his eye, the ball, and candle, be all on a level, when M is at D, S will be eclipſed by it from his view: and when M is at F, M will be eclipſed in the ſhadow of his head. Hence we may ſee, that lunar eclipſes can only happen at the time of full; and ſolar ones, only at the change.

If the moon moved in the ſame plane or level with the earth, we ſhould have an eclipſe every full and change; but the plane of it's orbit is oblique to that of the earth, and croſſes it at an angle of five degrees and one-third. The points of their interſection are called the nodes of the moon's orbit.

The Aſcending node is the northern interſection of the moon's orbit with the ecliptic; it is called the dragon's head, and is marked thus by aſtronomers ☊; the deſcending node, or dragon's tail, is the ſouthern interſection, and is marked thus, ☋.

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The nodes change their place every lunation, and it is only when they happen to be in a right line with the ſun and earth that the ſolar and lunar eclipſes take place.

If the line of the nodes were always carried parallel to itſelf round the ſun, there would be juſt half a year between the conjunctions of the ſun and nodes. But as the nodes ſhift towards the weſt, backwards, or contrary to the earth's annual motion, about nineteen degrees and one-third in a year, the ſame node will come round to the ſun about 19 days ſooner every year than upon the preceding one: conſequently, from the time that the aſcending node paſſes by the ſun, as ſeen from the earth, it is only 173 days, not half a year till the deſcending node paſſes: therefore, in whatever time of the year we have eclipſes of the luminaries about either node, we may expect in 173 days to have eclipſes about the other node. The nodes ſhifting through all the ſigns and degrees of the ecliptic in 18 years 225 days, there would always be a regular period of eclipſes, if any complete number of lunations were finiſhed without a fraction. This never happens; but in 223 mean lunations, or 18 years and 10 or 11 days after the ſun, moon and nodes have been once in a line of conjunction, they return ſo nearly to the ſame ſtate again, that the ſame node which was in conjunction with the ſun and moon at the beginning of the firſt of theſe lunations, will be within leſs than half a degree of a line of conjunction with the ſun and moon again, when the laſt of theſe lunations is completed. And, therefore, in that time, there will be a regular period of eclipſes, or returns of the ſame eclipſes for many ages. But the falling back of the line of conjunction of the ſun and moon, with reſpect to the line of the nodes, in every period, will in proceſs of time wear it out, and after that it will not return again in leſs than 12,492 years. The eclipſes of the ſun, which happen about the aſcending node, and begin to come in at the north pole of the earth, will go a little ſoutherly at each return, till they go quite off the earth at the ſouth pole; and thoſe which happen about the deſcending node, and begin to come in at the ſouth pole of the earth, will go a little northerly at each return, till at laſt they quite leave the earth at the north pole.

In any year the number of eclipſes of both luminaries cannot be leſs than two, nor more than ſeven; the moſt uſual number is four, and it is very rare to have more than ſix. Eclipſes of the ſun are more frequent than of the moon, becauſe the ſun's ecliptic limits are greater than the moon's; yet we have more viſible eclipſes of the moon than of the ſun, becauſe eclipſes of the moon are ſeen from all parts of that hemiſphere of the earth which is next them, and are equally great to each of thoſe parts, but the ſun's eclipſes are viſible only to that ſmall portion of the hemiſphere where the moon's ſhadow falls.

17. *Change in the Moon's Orbit.*] While the motions of the ſpheres are ſo well underſtood, as to enable aſtronomers to deſcribe their motions, and their conſequently ever varying poſitions, with great preciſion; while they calculate the periods of eclipſes for ages to come, and tell us when and where they have happened from remote antiquity, with tolerable accuracy, their elements for computation are yet imperfect:

there is ſtill a deviation in the motions of the ſpheres from every ſyſtem of human contrivance; and it ſeems that art, however ingenious, muſt for ever be incompetent perfectly to exhibit their exact order, or tell the end of their goings.

In the motion of the moon there is diſcovered a ſlow continual change, which is very minute, but which, when diſcovered, ſeems to ſhew that the preſent order of things muſt come to an end. It is found that the moon now finiſhes it's period in leſs time than formerly, approaching nearer and nearer to the earth, and going ſooner and ſooner round it. Hence, eclipſes which have happened many centuries ago, appear, from the accounts in ancient hiſtory, to have fallen rather differently, both in time and place, from what the calculations from our preſent aſtronomical tables make them to have done. Thus the eclipſe of the ſun, predicted by Thales in Aſia to happen in the fourth year of the 48th Olympiad, 585 years before the Chriſtian æra, by calculation would appear to have come on rather later, and to have happened central through North America, the South of France, Italy, &c. but not to have reached farther than Athens, or the iſles in the Ægean ſea, though it is thought that it extended to Babylon, and went down central over that city. So alſo the ſolar, eclipſe mentioned by Thucydides to have happened on a ſummer's day in the firſt year of the Peloponeſian war, 431 years before the Chriſtian æra, and which appears to have been central to Athens about ſix in the evening, cauſing a darkneſs ſo great that the ſtars appeared, and to have gone down about Jeruſalem, would, by calculation from the preſent tables, appear to have reached no farther than the ancient Syrtes, on the African coaſt of the Mediterranean, above 400 miles from Athens.

18. *Libration of the Moon.*] As the motion of the moon on it's axis is equable, compleating one revolution in the courſe a lunation, our earth would be conſtantly over the ſame meridian of the moon, were the motion of the moon round the earth alſo equal; but, like the other planets, it moves, in it's orbit, with different degrees of velocity, and this produces what is called the libration of the moon, or the ſucceſſive exhibition and retreat of its oppoſite limbs or margins. When the motion of the moon is quickeſt, we ſee rather more of its weſtern ſide; when ſloweſt, a little more of it's eaſtern ſide is preſented to us; moreover, the axis of the moon, being a little inclined to it's orbit, and preſerving it's parallelism round the earth, we ſometimes ſee one and ſometimes another pole of the moon, which gives it the appearance of a wavering or vacillatory motion.

19. *Production of Tides, &c.*] While it is by attraction that the earth remains a ſolid ball, when otherwiſe its parts would be thrown off from it's centre by the rotatory motion which it has on it's axis; and while it is kept in it's orbit by the centripetal force, when otherwiſe the centrifugal would throw it off in a right line through the immenſity of ſpace; the water in it's vallies, or the ſea, and the atmoſphere that ſurrounds it, being fluids, receive from theſe two forces particular impreſſions, of which the firmer parts of it are not ſuſceptible. Of theſe the moſt remarkable are the tides, which, while they are produced

duced in the atmoſphere as well as in the water, appear to us only in the latter.

If we fix a ſtring to the ſide of a flexible circular hoop and thereby ſwing it round in a circle, fig. 32, we readily conceive how the part next the hand would draw out or ſwell by the drawing of the ſtring; how the oppoſite part would fly off or ſwell, by the centrifugal force, it being leaſt drawn in; how the intervening parts of the hoop would hereby be depreſſed or flattened. So it is with the ocean; that part of it which is immediately under the ſun, is raiſed by it's attraction up into a ſwell; that part of it which lies on the oppoſite ſide of the earth, is thrown up into a ſimilar ſwell, by the motion of the earth in it's orbit, or by the centrifugal force: the moon is ſo near the earth (two hundred and forty thouſand miles at a medium) in compariſon of the ſun (near one hundred millions of miles) that the moon's attraction, and the accompanying centrifugal force, are to thoſe of the ſun as ten are to three. If we conſider then the lunar tides as the principal ones, we ſhall find them influenced by the ſolar tides, as follows: at the full and change, the lunar tides ten, ſhall be increaſed three, by the conjunction of the ſolar ones; and a power of thirteen ſhall influence the ſea, and produce ſpring tides; but at the quarters of the moon, or at the time of half-moon, the two luminaries counteracting each other's influence on the waters, the ſun's power of three, ſhall be taken from the moon's of ten, and leave only ſeven operating upon the ſea; and hence neap tides ſhall conſequently take place.

In open ſeas, the tides riſe but to very ſmall heights, in proportion to what they do in wide-mouthed rivers, opening in the direction of the ſtream of the tide; as the winds, when gentle on the open plain, are very rapid and forcible, when compreſſed into the defiles of the mountains.

The tides are ſo retarded in their paſſage through different ſhoals and channels, and otherwiſe ſo variouſly affected by ſtriking againſt capes and headlands, that to different places they happen at all diſtances of the moon from the meridian. The tide, for inſtance, propagated by the moon in the German ocean, takes twelve hours in reaching London bridge, by which time a new tide is raiſed in the ocean.

20. *Earth, an oblate Spherhoid.*] If, inſtead of ſwinging the flexible hoop round in a circle, as in the former experiment, we ſuppoſe it whirled round with velocity on one of it's ſides, as a centre, as in fig. 33, we may eaſily conceive how this ſide, and the ſide directly oppoſite, would become flat or depreſſed, by the intervening parts of the hoop ſwelling out from the centre, as it is whirled round. So is it with the ſea; by the centrifugal force from the turning round of the earth on it's axis, the waters of the ocean are thrown up many miles higher at the equator, than they are at the poles. We might hence be apprehenſive, that the countries within the tropics would be deluged with water; but the fact is, the ſolid part of the earth itſelf has a correſponding ſhape, being rather flat at the poles, and higheſt at the equator. The land and water then of our globe is not an exact ſphere, but an oblate ſpherhoid. A prolate ſpherhoid is higheſt at the poles; a lemon may be conſidered as a figure of this deſcription: an orange as a ſpherhoid of the oblate kind.

It is the tendency of gravitation or attraction, to draw the waters down to the poles, and to lay even thoſe countries that we live in, ſome miles under water; but this influence is nicely counteracted by the centrifugal force, which perpetually keeps it heaved up to the equator.

The exact figure of the earth was undetermined, and there were different notions reſpecting it, till, in the early part of this century, two companies of mathematicians were deſpatched from France, one to meaſure the length of a degree on the meridian in Lapland, the other at the equator; and a degree of latitude was found ſomething ſhorter at the equator, than it proved to be on the flatter parts of the earth near the pole; our globe was found to be an oblate ſpherhoid, and very nearly of the ſame proportion as Iſaac Newton had computed it to be, from his knowledge of the laws of the creation: the figure of our earth, however, differs ſo little from that of a ſphere, that it may be conſidered as ſuch in the common geographical computations, without any ſenſible error.

It is generally aſſerted that bodies near the poles are heavier than thoſe towards the equator; becauſe they are nearer the earth's centre, and becauſe their centrifugal force is leſs, on account of their diurnal motion being ſlower; that, for both theſe reaſons, bodies carried from the poles toward the equator gradually loſe their weight. Experiments prove, that a pendulum, which vibrates ſeconds near the poles, vibrates ſlower near the equator; this favours the idea of it's being lighter, or leſs attracted there. To make it oſcillate in the ſame time, it is found neceſſary to diminiſh it's length. It is even ſaid that if the earth turned on it's axis in 84 minutes, 43 ſeconds, the centrifugal force would be equal to the power of gravity at the equator; and all bodies there would entirely loſe their weight; that if the earth revolved quicker, they would all fly off, and leave it.

Although theſe doctrines be eſtabliſhed on the reſearches of very diligent and accurate aſtronomers and philoſophers, and it therefore may ſeem to require preſumption or confidence in ſuperficial obſervers in any way to oppoſe them; yet, may we not very naturally enquire, if gravitation be unequally diſtributed on the ſurface of the earth, whether the people at the equator are not capable of carrying greater burdens, of leaping farther, of walking lighter, &c. or whether the atmoſphere itſelf being rendered lighter, and their ſpecific gravity in the aërial fluid being hereby increaſed, thoſe extraordinary powers are hereby reduced, as they do not ſeem to exceed the little Greenlander in ſtrength and agility.

As to the vibrations of pendulums being ſlower, may we not doubt the certainty of ſuch proofs? At the equator we may expect the pendulum to move ſlower from it's being lengthened by the ſuperior heat; this objection being obviated by the remark, that the cold on the mountains at the equator is intenſe; may we not ſay, on the ſuppoſition of the air's being lighter here than at the poles, that the vibrations ought to be equally quick, ſeeing that the denſeſt metal and a feather fall with equal velocity in vacuo.

Beſides, if the weight of bodies be not even increaſed at the equator, by having the whole attractive force of the earth acting on them

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more directly downwards, in order to counteract the centrifugal force, what prevents the waters of the ſea, when raiſed to their preſent height, if they have hereby become lighter, from riſing double the height? the centrifugal force ſtill increaſing, what prevents them from ſtill becoming lighter and lighter, and riſing higher and higher, till they are thrown quite off from the ſurface of the earth?

It may be obſerved that if the direction of the line of the plummet were directly towards the earth's centre, it would be oblique to the horizon in all parts except at the poles and the equator, and a degree of latitude would be ſhorter in the polar regions than near the equator: but, it ſhould ſeem that the centrifugal force, by acting upon the hanging weight, muſt throw it from ſuch direction, and keep it perpendicular to the horizon, hereby making the degrees longer in the polar parts of the earth. On the ſame principles, when we ſeem to erect upright bodies, ſuppoſe pillars, do we not always by direction of the plummet cauſe them to lean from the equator, and hereby unknowingly counteract the centrifugal force? do we not, in fact, inſenſibly lean towards the polar regions, in our own bodies, as a man or a horſe, walking round a circle, naturally leans towards the centre.

Harveſt Moon, &c.] It is generally believed that the moon riſes about 50 minutes later every day than on the preceding: but this is true only with regard to places on the equator. In places of conſiderable latitude, there is a remarkable difference, and this is eſpecially noticeable in the harveſt time, when the autumnal full moon riſes very ſoon after ſun-ſet for ſeveral evenings together. At the polar circles, where the mild ſeaſon is of very ſhort duration, the autumnal moon riſes at ſun-ſet from the firſt to the third quarter: and, at the poles, where the ſun is for half a year abſent, the winter full moons ſhine conſtantly without ſetting from the firſt to the third quarter.

All theſe phenomena are owing to the different angles made by the horizon, and different parts of the moon's orbit. The moon's orbit is nearly co-incident with the ecliptic. In northern latitudes, the ſmalleſt angle made by the ecliptic and horizon, is when Aries riſes, at which time Libra ſets; the greateſt when Libra riſes, and Aries ſets. On the parallel of London, as much of the ecliptic riſes about Piſces and Aries in two hours, as the moon goes through in ſix days; and therefore, whilſt the moon is in theſe ſigns, it differs but two hours in riſing for ſix days together; it is about 20 minutes later every day or night, than on the preceding, at a mean rate. But in fourteen days afterwards, the moon comes to the oppoſite ſigns Virgo and Libra, and then differs almoſt four times as much in riſing, being about 1 hour, 15 minutes later every day or night, than it was the preceding one.

As the moon can never be full, but when it is oppoſite to the ſun, and the ſun is never in Virgo and Libra, but in our autumnal months, the moon is never full in the oppoſite ſigns, Piſces and Aries, but in theſe two months: and therefore we can have only two full moons in the year, which riſe ſo near the time of ſun-ſet for a week together, as above mentioned.

The former of theſe is called the harveſt moon, and the latter, the hunter's moon.

As the moon is in Piſces and Aries every lunation, it muſt riſe twelve times in the year in this remarkable manner. But in winter, the moon riſes in theſe conſtellations at noon, when it is only a waxing moon; in winter at midnight, when it is a waning one: in both caſes a half-moon; and in ſpring it riſes in theſe conſtellations in the morning, or with the ſun, which is the time of it's change.

On the other ſide of the equator, the people have their harveſt moons, as well as we; but their ſeaſons being contrary to ours, the time of them is alſo reverſe.

As the ecliptic and horizon become co-incident every day, for a moment, at any place on the polar circle, one half of the ecliptic, from one ſolſticial point to another, riſes, and the oppoſite half ſets at the ſame inſtant: that which riſes at once is 24 hours in ſetting, and that which ſets once is 24 hours in riſing. At the poles, one half of the ecliptic is always above the horizon, the other half never riſes. The degree of our moonlight depends upon the oppoſition of the moon to the ſun. From this diſpoſition of things, the wintry parts of our earth, where the nights are long, have the greateſt ſhare of the moon's light; and in the arctic and antarctic regions of our globe it ſhines without ſetting every ſecond fortnight, or from the firſt to the third quarter, and thus diverſifies the gloom of the ſix month's night.

SECTION II.

Hiſtory of Aſtronomy, Definitions of Circles, &c. Celeſtial and Terreſtrial; Planetary Laws, and the Methods of inveſtigating the Motions, Magnitudes and Diſtances of the Heavenly Bodies.

21. *Hiſtory of Aſtronomy.*] From the ſyſtematic habits impoſed on us in this quarter of the earth, from the earlieſt age, having every thing already invented and prepared for the accommodation of our artificial and diſtorted manner of life, we have little idea of the invention and of the ſtrength of the reaſoning faculty in uncultivated man. Immured in our narrow manſions, where we keep a ſort of artificial climate, we ſhrink from the little irregularities of the weather, while the Indian or Ethiopean, under their reſpective ſkies, roam at large cheerful and full of vigour. Every day affords them new adventures; they bear a relation to every thing about them of which we have no conception. The great ſpectacle of creation being continually before them, they have opportunities of improving the mental faculties of which we are deprived. The aſpect of the heavens is familiar to them; the changing ſeaſons and rolling planets they are acquainted with as they really appear, and they learn, from obſervation, in the open hemiſphere, and along their uninterrupted horizon, uſeful leſſons for conduct and travelling; while we, having every thing pointed out to us, ſee only through the eyes of others, are amuſed with their diſcoveries, doctrines, and theories, but know more of inſtruments, maps, and diagrams, and heavens upon paper and artificial ſpheres, than of the firmament about

us: or rather, does it not belong exclusively to a very small number in civilized countries to know any thing further about the matter, than what we may obtain from a transient peep from our windows?

Astronomy seems to have engaged the attention of mankind, in the simplest ages and from the most remote antiquity. The Antediluvians are said to have had considerable skill therein. The Chinese appear to have made astronomical observations soon after the flood; their skill has been attributed to the instructions received from Noah, supposed to be the Fohi of the Chinese, and Confucius who lived 551 years before the Christian æra has recorded many eclipses. The Japanese, Siamese, and the inhabitants of the Mogul's empire have also, from time immemorial, been acquainted with astronomy; that of the Indians agreeing with the most modern discoveries of the decrease of the obliquity of the ecliptic, of the accéleration of the motion of the equinoctial points, &c. The Druids were skilled in this science, and the Gauls, in general, able sailors in consequence. It appears also, that the Mexicans were not unacquainted with astronomy, and that they made use of intercalary days to bring the solar and civil years to to an equality: but with this difference in regard to the method established by Julius Cæsar in the Roman kalendar, that they did not interpose a day every four years, but thirteen days every fifty-two years, which produces the same regulation of time.

The Chaldeans and Egyptians were noted, in antiquity, for their skill in astronomy; their countries, on account of the general purity or clearness of the air, were exceedingly favourable to astronomical observations. In those warm climates, where the sky is generally serene, and where it is the practice, till this day, to sleep on the tops of houses, it should seem the people, particularly the shepherds watching their flocks by night, would be naturally led to a contemplation of the firmament; these would soon discern that the innumerable multitude of stars observed the same course as the sun; if this shining orb, in the splendour of light, performed his course from east to west, while he afforded to the world the advantages of day, the stars also, and the moon, glided along in parallel or coinciding circuits, during the cool refreshing night season, one star only seemed to keep its place, and to be as a centre of revolutiou to all the other luminaries, and this orb they called the polar star, or pole. When these observations had been made on the celestial bodies in general, and the aspect of the heavens had become somewhat familiar, they could not but observe, that some of the luminaries appeared to change their relative situation in the heavens; particularly, the sun and moon appeared to be constantly overtaken and left behind by the stars, as they all seemed to move along together round the pole and our earth; sometimes to approach towards the pole, then to recede from it, which evidently produced the seasons of the year, and which gave them the opportunity, in the different seasons, of becoming acquainted with all the visible stars in the northern, and most of those in the southern hemisphere, in the course of one revolving year.

22. *Origin of the Zodiac, Constellations, &c.*] That space round the heavens wherein they saw the moon and planets in their various motions

tions and appearances, they conſidered as a broad circle or belt, and they very ingeniouſly divided it into 12 equal portions, which they called houſes: during the ſpace of one revolving year, this circle ſeemed to wheel 366 times about, and the ſun to complete 365 daily courſes; hence, the circle continually gaining upon the luminary, the ſun was ſaid to enter, poſſeſs, and leave the ſeveral houſes ſucceſſively. This circle is called the the Zodiac, from a Greek word implying an animal.

Thoſe parts of the circle the ſun ſeemed to poſſeſs in the ſpring, when the flocks and herds are increaſed by the fecundity of the ſeaſon, were called the houſes of, 1ſt, Aries, or the ram. 2d, Taurus, or the bull. 3d, Gemini, or the twins, from the goat's frequently bringing forth twin kids; theſe were changed afterwards into the twin brothers, Caſtor and Pollux: the other ſigns of the zodiac were ſucceſſively, 4th, The Crab, denoting the retrogade motion of the ſun in midſummer. 5th, The Lion, expreſſive of the intenſe heat of ſummer. 6th, The Virgin, with ears of corn, denoting the harveſt 7th, The Balance, ſhewing the equality of day and night in autumn. 8th, The malignant or venemous Scorpion, repreſenting the diſeaſes at the fall of the leaf. 9th, The Archer, ſignified the hunting ſeaſon. 10th, The Goat, that climbs the craggy mountain, was meant to ſhew that the ſun now mounted the zodiac. 11th. The Waterman, repreſenting the ſetting in of the ram. And 12th, The Fiſhes, ſhewed the fiſhing ſeaſon.

Some have thought Joſephus partial to the patriarch, in accounting Abraham the firſt introducer of aſtronomy among the Egyptians; they have imagined that Cham and his family brought with them the aſtronomical deſign of the zodiac, on their firſt ſettling in the land of Egypt. The lower parts of this country are, on our autumn, annually laid under water by the overflowing of the Nile; this greatly enriches the ſoil, but at the ſame time ſweeps away the land-marks of the huſbandman: to remedy this inconvenience, recourſe was neceſſarily had to lines and angles, and as the ſkilful pilot avoids the hidden rocks and ſhoals, by keeping diſtant objects in certain bearings with each other to his eye, as he traverſes the ſmooth and uniform ſurface of the water; ſo by ſimilar helps had the Egyptian his particular lot of ground again returned to him, when the flood had left the plains, under one continued appearance of ſlime and mud.

Some account this the origin of geometry with the ancients; certainly it appears this circumſtance would tend vaſtly to the fixing of that foundation of ſcience, among the ingenious and aſſiduous Egyptians.

For the ſecurity of their families, their cattle, and conveniencies on the higher grounds, it was neceſſary for the Egyptians to watch with attention the preciſe time of the coming of the flood. Aſtronomy was not, in thoſe days, in that high cultivation in which we have it now, the civil or political year was not yet eſtabliſhed; the diviſions of the zodiac not ſufficiently minute; the general and obvious one of the ſeaſons ſtill leſs ſo.

In the ſummer, annually, a ſhort time preceding the inundation, a

ſtar

ſtar of the firſt magnitude appeared in the eaſt, a little before the riſing of the ſun. It ſeems probable that the Egyptians, for a while, kept with anxiety the watches of the night, for fear of too ſudden a deluge of waters; but this brilliant ſtar annually making its appearance a little before the inundation took place, it afterwards ſufficed to await the coming of the ſtar. They gave it the name of Thaut or Thot, the dog; and Anubis, the barker or monitor.

It ſhould ſeem to require an effort in the imagination to ſee figures of animals, &c. in the firmament; but the ancients either imagined they did, or reſolved they would, diſcover things of this ſort in the arrangement of the ſtars: and accordingly, in their different houſes in the zodiac, and in the ſtars ſurrounding their bright Anubis, they ſaw, by help of a fertile fancy, one bright ſtar repreſent the eye, another the termination of a tail or horn, theſe a body, thoſe a limb, &c. till all their ſigns were determinately fixed; the ſhepherds ſtill conceiving the figures of things in the firmament, the poets embelliſhed the illuſion, with the fictions of mythology, till the heaven, were, as it were filled, with theſe imaginary creatures, and theſe were increaſed in after ages, and ſerved aſtronomers in their accounts of the ſtarry heavens, as the preſent diviſions of the earth help geographers in the deſcription of the globe.

The overflowing of the Nile was alſo preceded by the north wind; and the hawk ſtretching her wings towards the ſouth; the decreaſe of the waters by the ſouth wind, and the coming of the whoop, a bird from Nubia, to feed on the inſects, &c. left by the flood. All theſe were noticed by the Egyptians, who appointed a company of ſkilful obſervers, for the farther advancement of knowledge; theſe, with great induſtry, inveſtigated the properties of natural bodies, ſtudied the geometrical affections of lines, angles, &c. they made their obſervations from a labyrinth or tower appropriated to that purpoſe, and in it recorded their improvements, as well as they could, by emblematical drawings or hieroglyphics, when they had not yet arrived at the invention of letters.

The number of conſtellations in the northern hemiſphere is 36; in the ſouthern, 32; and in the zodiac, 12. Thoſe ſtars which are not included in the conſtellations, are called unformed ſtars; thoſe cluſters of ſtars which are ſo diſtant as not to be diſtinctly ſeen, are, from their cloudy appearance, comprized under the name of nebulæ; and that light-coloured irregular circle or band, which encompaſſes the heavens, and is diſtinguiſhable from the etherial blue by it's brilliancy: this ſhining zone, which owes it's ſplendour to the innumerable ſtars of which it is formed, and which paſſes through many of the conſtellations in it's ample range, is called the Galaxy, the Via lactea, or the milky way.

23. *Definitions of Circles, &c. ſtationary.*] Aſtronomers have conſidered the ſtarry heavens, as a ſphere or concave, with our earth in the centre: this is the appearance they make to our ſenſes. They have divided the terreſtrial and celeſtial ſpheres, by great and leſs circles: Great circles are thoſe which divide either the celeſtial or terreſtrial

ſpheres

ſpheres into two equal parts: leſs circles are thoſe which divide the ſphere into two unequal parts.

The axis of the earth is an imaginary ſtreight line paſſing through it's centre: it's points at the earth's ſurface are the North and South poles.

If, at the time of the equinoxes, a ray directly pointed from the centre of the ſun towards that of the earth, be ſuppoſed, like a pencil, to deſcribe a circle on the ſurface of our globe, as it turns round on it's axis; this circle will divide the earth into the northern and ſouthern hemiſpheres, and will be the equinoctial line.

If circles be ſuppoſed to be deſcribed in like manner, at the time of the ſolſtices, or at midſummer and midwinter; theſe will be the Tropics, at about twenty-three degrees and a half from the equinoctial line.

When the ſun is thus directly over a tropic, as it illumines one half of the globe at once, it's rays extend twenty-three degrees and a half beyond one of the poles; and fall ſo far ſhort of reaching the other. Theſe extreme boundaries of light and darkneſs, on the north and on the ſouth, as they are ſwept round the poles in one revolution of the earth on it's axis, mark out the polar circles on the ſurface of the globe. The polar circles are the Arctic, on the north, and the Antarctic, on the ſouth. The tropics are that of Capricorn on the ſouth, and that of Cancer on the north; they are all ſo named from conſtellations that are over them in the heavens.

Theſe circles divide the ſurface of the earth into five zones. The tracts at the two poles, are the Frozen zones; thoſe between the polar circles and the tropics, the Temperate; and that which extends from tropic to tropic, is the Torrid or burning zone.

The ſtarry heavens that ſurround us, appear to form one vaſt concave. If theſe circles be ſuppoſed to be produced to the ſtarry heavens, or ſwept round the concave, they will there mark out the celeſtial polar circles, tropics and equinoctial.

When the ſun is over any of theſe circles on the earth, it will appear to us in the correſponding circle in the heavens.

As our earth in, the courſe of a year, moves round the ſun in an orbit or ecliptic, the plane of which is oblique to that of the equinoctial, the ſun in that time ſeems to us to move in a contrary direction, in an orbit or ecliptic round the heavens, of the ſame obliquity from tropic to tropic, interſecting the equinoctial in two oppoſite points, and forming an angle with it equal to twenty-three degrees twenty-eight minutes; the ſun's greateſt declination.

All the planets move nearly in the direction of the ecliptic; and that ſpace on each ſide of it, which bounds their utmoſt deviations, is called the zodiac. The Zodiac is a broad circle or belt, in the ſtarry heavens; it is about ſixteen degrees in breadth. The Ecliptic is a line which equally divides it in two all round.

The zodiac is divided into twelve equal parts, called ſigns or conſtellations; each ſign contains thirty degrees; and theſe ſigns are named and noted in the following manner;

Aries.

Aries.	Taurus.	Gemini.	Cancer.	Leo.	Virgo.
♈	♉	♊	♋	♌	♍
Libra,	Scorpio.	Sagittarius.	Capricornus.	Aquarius,	Piſces.
♎	♏	♐	♑	♒	♓

The former ſix are called northern, and the latter ſouthern ſigns; becauſe the former poſſeſs that half of the ecliptic, which lies to the northward of the equinoctial; and the latter that which lies to the ſouthward. The northern are our ſummer ſigns; the ſouthern are winter ones.

The planets within the earth's orbit are called the inferior; thoſe without it, the ſuperior planets. When at their greateſt diſtance from the ſun, they are ſaid to be in their Aphelion; when neareſt to the ſun, in their Perihelion; theſe two points of diſtance are called the Apſides; and a line joining the points is called the Line of the Apſides. Planets, when fartheſt from the earth, are ſaid to be in their Apogeon; when neareſt to it, in their Perigeon.

The apparent places of the planets are conſiderably altered by the earth's change of place, as well as by their own motions: the Geocentric place of a planet, is that poſition in which it ſeems to be as ſeen from the earth; the Heliocentric place is that in which it would appear to a ſpectator placed in the ſun. From the motion of the earth the ſuperior planets ſometimes appear to us to move in Antecedence, or or contrary to the order of the ſigns of the zodiac; the inferior planets would have that appearance, if our earth were at reſt in it's orbit; to an obſerver at the ſun, the planets would all appear to move in the order of the ſigns, or in Conſequence: a planet ſo moving is ſaid to be Direct; when it ſeems to move the contrary way, it is ſaid to be Retrograde.

If we ſuppoſe a line extended from pole to pole, on our earth, cutting the equator at right angles, this will be a Meridian; for all the people who live on this line, would have noon, or any other part of the day, at one and the ſame time.

In the heavens alſo meridians cut the equinoctial at right angles, and terminate in points oppoſite to the poles of the world.

In our northern latitudes, the heavenly bodies are ſaid to ſouth or culminate, when they come to the meridian.

The Nodes of a planet, are the two points where it's orbit interſects the plane of the ecliptic.

The Equinoxes are the two points where the ecliptic cuts the equator; they are ſo called, becauſe the days and nights are of equal length, when the ſun is in either of theſe ſituations.

The Solſtices are the two points where the ecliptic touches the tropics; when the ſun is in theſe ſituations, which it is at midſummer and midwinter, its declinations ſeem for a while to be ſtationary or fixed.

Theſe points are the Cardinal points of the Ecliptic, and the firſt points of the ſigns Aries, Cancer, Libra, and Capricorn.

The Equinoxes, or equinoctial points are thoſe of Aries and Libra; the ſolſtices, or ſolſtitial points are thoſe of Cancer and Capricorn. The meridians that paſs through theſe four points, meeting at the poles, interſect each the other at right angles: theſe two great circles are called the Equinoctial and Solſticial colures.

The Latitude of a place on our earth, is it's diſtance north or ſouth from the equinoctial line: the longitude, it's diſtance eaſt or weſt from a meridian. Circles are divided, whether great or ſmall, into three hundred and ſixty parts, called Degrees; the greateſt longitude of a place, therefore, can only be one hundred and eighty, the utmoſt latitude ninety degrees.

The meridian for meaſuring longitude from, on our earth, is not determinate or eſtabliſhed; and geographers generally fix upon that one, on which the metropolis of their own nation ſtands.

In England that of London, or rather of Greenwich Obſervatory; in France, that of Paris is the firſt meridian; but before theſe partial aſſumptions took place, Faro, one of the weſtern iſles, was ſuppoſed to be the very outſide limit of the habitable world, and it's meridian was wiſely made, by common conſent, the commencement of eaſtern longitude. Before the diſcovery of America, weſtern longitude was diſregarded or unknown.

The Right Aſcenſion of any heavenly object, is it's diſtance from that meridian which paſſes through the firſt point of Aries; the Declination is it's diſtance from the equinoctial.

If great circles be imagined to cut the ecliptic at right angles, theſe will interſect each other in two oppoſite points of the heavens. Theſe points are the Poles of the Ecliptic, at nearly twenty-three degrees and a half from the poles of the world; and the circles are called Circles of longitude in the heavens.

The Latitude of any heavenly object, is it's diſtance north or ſouth from the ecliptic; the Longitude it's diſtance from that circle of longitude, which paſſes through the firſt point of Aries.

The latitudes of the fixed ſtars remain invariably the ſame, but their longitude increaſes at the ſlow rate of one degree in about ſeventy-two years: this is not a motion of the fixed ſtars, but of the equinoctial points, from which we reckon the ſtar's longitude, and which move backward, or recede weſtward at that rate; this is the preceſſion of the equinoxes, which requires about 25,920 years for one revolution through the twelve ſigns; in this time the pole of the earth, in pointing to the heavens would deſcribe a circuit round the pole of the ecliptic.

24. *Definitions of Circles, &c. varying.*] Beſides the circles already mentioned, which are in ſome meaſure fixed and determinate, there are others that vary according to the place of the obſerver.

The Zenith is that point in the heavens directly over head. The Nadir is that point directly oppoſite the zenith; the zenith and nadir are the two poles of the horizon.

The Senſible horizon is that apparent circle in the heavens on a level with the eye, which limits or bounds the view of the ſpectator on the ſea, or on an extended plane. The eye of the ſpectator is the centre of his horizon. The Mathematical horizon may be conſidered as coinciding with the ſenſible, though the centre of the earth is the centre of the mathematical horizon; for the ſemi-diameter of the earth, is but as a minute point, if compared with the diſtance of the ſtars.

The altitude of an heavenly object is its diſtance from the horizon; the Zenith diſtance it's diſtance from the zenith.

The

The Meridian altitude, or Meridian zenith diſtance, is the altitude or zenith diſtance, when the object is on the meridian.

A circle round the heavens, and through the object, parallel to the horizon, is called an Almicanter, or a Parallel of altitude.

The Azimuths, or Verticle circles, paſs through the zenith and nadir, and cut the horizon at right angles.

The points where the azimuth, which coincides with the meridian, cuts the horizon, are the North and South points. The points where the azimuth, which cuts the meridian at right angles, falls upon the horizon, are the Eaſt and Weſt points. Theſe are the Cardinal points of the Compaſs. All the points of the compaſs may be ſeen in their order in fig. 25.

Although the planes of the Azimuths, which mark out the cardinal points of the compaſs, interſect each other at right angles, and the line of Eaſt and Weſt does conſequently in all places croſs the line of North and South perpendicularly, yet it neceſſarily happens, from the convexity of the globe, that the line of Eaſt and Weſt varies it's direction every ſtep we take on it, except at the Equinoctial; hence to travel on any parellel of latitude, is to go along a crooked line, as moſt obviouſly appears when we come near the poles.

The Azimuth of a celeſtial object, is an arc of the horizon, contained between the eaſt or weſt point of the heavens, and a verticle circle paſſing through the centre of the object.

The Amplitude of a celeſtial object, is an arc of the horizon contained between the eaſt or weſt point of the heavens and the centre of the object at the time of its riſing and ſetting.

When a ſtar or planet riſes at ſunſet, and ſets at ſunriſe, it's riſing and ſetting is Achronical; when it riſes and ſets with the ſun it is Coſmical: when it emerges from the ſun's rays, or appears above the horizon before the ſun in a morning, its riſing is heliacal; when it is ſo hid in the ſun's beams as not to be ſeen above the horizon after the ſun in the evening, it's ſetting is heliacal.

Aſcenſional Difference is an arc of the equinoctial, contained between that point of it which riſes with the ſun, moon, or ſtar, and that which comes to the meridian with them; or it is the time the ſun riſes or ſets before or after ſix o'clock.

Oblique Aſcenſion, is an arc of the equinoctial contained between the firſt degree of Aries, and that point of it which riſes with the centre of the celeſtial object, ſun, moon, or ſtar.

25. *Poſitions of the Sphere.*] A parallel ſphere, is that poſition wherein the heavenly bodies appear to move parallel to the horizon. This can only happen at the poles, where the equinoctial coincides with the horizon; one of the poles with the zenith; and the other with the nadir, fig. 26.

A right ſphere, is that wherein the heavenly bodies appear to riſe direct from the horizon, and to fall directly upon it when they ſet. This is common to all places ſituated under the equinoctial, where the poles are in the horizon; and the equinoctial paſſes through the zenith and nadir, fig. 27.

An

An Oblique Sphere, is that where all the heavenly bodies appear to move obliquely to the horizon. This is common to all parts of the earth, except thoſe under the poles and equator. In an oblique ſphere, one of the poles ſeems elevated above, and the other depreſſed below the horizon, fig. 28.

Fig. 29, Repreſents an artificial armillary ſphere, which ſhews the diſpoſition of ſeveral of the circles already deſcribed.

26. *Aſcertainment of the Latitude.*] The latitude of a place on the earth is more eaſily found than the longitude. It may be performed by the help of a quadrant, and addition and ſubtraction only, if we have a meridian line, or other certain means to know when it is twelve o'clock by the ſun. By the quadrant (fig. 24.) we can find the height or altitude of any heavenly body above the horizon; if it be the ſun, we hold the quadrant ſo that it's rays ſhall paſs through two holes or ſights fixed on D S; but if any other object, we look at it through the ſights along D S; the plummet and thread hanging from the angle S marks its altitude on the arch C D. The meridian altitude of any object is it's greateſt altitude for that day, and when the ſun is on the meridian, it is twelve o'clock by the dial. The ſun's meridian altitude is it's noon day altitude, and in all places north of the torrid zone, the ſun is exactly ſouth at noon, by which we may gain an idea of the other points of the compaſs; for if we turn our faces to the ſun at noon, the north point will be exactly behind us, the weſt on our right hand, the eaſt on our left.

If we take the altitude of the ſun or a ſtar on the meridian, and the ſun or ſtar be in the equinoctial, that altitude ſubſtracted from ninety deg. leaves the latitude of the place, but if the ſun be not on the equinoctial, ſubtract its declination if north, or add it if ſouth, from or to the degrees of altitude, and the remainder or ſum ſubtracted from ninety deg. tells the latitude. Thoſe who have but very little acquaintance with the heavenly bodies may, by juſt looking about them, form ſome idea of the latitude of the place they may be in all over the world. If the ſun be over their heads at noon, they muſt be within the tropics; on the contrary, if it either keeps twenty-four hours up, or never riſes during that ſpace, they are within the polar circles; even the temperature of the place alone might give them ſome idea of their latitude. The north or ſouth pole is eaſily pointed out in the heavens, they are thoſe points which appear as centres of revolution to the ſtars in their apparent diurnal motions. If our ſituation be on the equator, both theſe points or poles will be in our horizon; if we recede from the line, one of theſe poles will ſink from our view, the other will conſequently riſe above the horizon, juſt ſo many degrees as we are diſtant from the equator. To aſcertain the altitude of the pole is the ſame as to determine our latitude. When we turn our backs to the pole, and look towards the equator, if the heavenly bodies ſeem to riſe on our left hand and ſet on the right, we are in a northern latitude, or on the northern hemiſphere; but if they riſe on the right and ſet on the left, we are in the ſouthern.

There are no ſuch ſimple and eaſy methods of judging of our longitude, whether it be eaſt or weſt, from any given meridian, the appearance

pearances of the heavenly bodies will generally be the ſame in any longitude, while we keep in one parallel of latitude.

27. *Aſcertainment of the Longitude.*] All places that lie under one meridian have the ſame longitude, and experience at once the ſame hour of the day; and as the difference of time between any two places is according to the diſtance of their meridians from each other, ſo if we knew the difference of the hour in theſe two places at one inſtant of time, it would only be another name for difference of longitude; for if their difference of time be one-half, one-third, one fourth, or any other part of twenty-four hours, i. e. of the time of one diurnal revolution, their difference of longitude, or the diſtance of their meridians from each other, will be one-half, one-third, one-fourth, or a ſimilar part of three hundred and ſixty degrees, i. e. of a parallel of latitude, or a circle on the earth, in a direction eaſt and weſt.

To find our longitude; beſides finding the hour in the place where we are, we muſt know what hour it is at ſome diſtant place, the latter we muſt either have by ſome exact time-keeper, ſet to the time of the other place, or from obſervations of the celeſtial bodies; for which the eclipſes of the moon and of the Jupiter's ſatellites are beſt ſuited, becauſe the coming on of theſe eclipſes is ſeen at the ſame inſtant of abſolute time from the different parts of the earth to which they are viſible, but their relative time will differ according to their difference of longitude: now the times of theſe appearances in the heavens are calculated according to a certain meridian; ſuppoſe that of London, and theſe calculations we have in the ephemeris, or almanack; if then, we nicely attend to the time of the coming on of the eclipſe, according to our diſtance, eaſt or weſt from the meridian of London, ſo will the hour of it's appearance differ from that of the calculation; but the difference of time between any two places is, as was already remarked, only another name for their difference of longitude.

However, eclipſes of the moon happen too ſeldom to be of much uſe at ſea, and eclipſes of the Jupiter's ſatellites are of no uſe except at land, becauſe they are not viſible without a teleſcope, which requires a ſteadineſs not ſuited to the motion of a ſhip. But mariners in long voyages make uſe of the moon's diſtance from the ſun, and from ſome ſtars in the zodiac at particular hours, which being calculated before hand for the meridian of London, they may by an exact obſervation and careful calculation from it, correct their computed longitude; for, by the courſe and diſtance they ſail, they compute how much their longitude and latitude are altered, which they call the ſhip's reckoning, which is never quite exact, and which in ſtormy weather they may loſe.

Another method of determining the longitude of places has been propoſed: it is by the variation of the compaſs. The needle in the compaſs is generally found to deviate from the true meridian, or the line of north and ſouth; it's line of direction is called the magnetic meridian. The needle, though balanced on it's centre, is found alſo to deviate in different parts from it's horizontal direction: this is called the dip of the needle. From obſervations made in different parts of the world, it is thought, that there are, at ſome diſtance from the poles of the earth, two magnetic poles, or points, by which the needle is influenced, occa-

ſioning the magnetic and the true meridians to differ; this difference is called the variation of the compaſs; that the north magnetic pole lies far north in America; that the ſouth magnetic pole lies far ſouth of New Holland; that there are two lines, perhaps oppoſite lines, connecting the two magnetic poles, along which, from pole to pole, the needle has no variation; and that the variation of the compaſs depends on the diſtance from theſe lines, and the latitude of the place. Now it has been thought that if the variations were aſcertained in the different parts of the world, and charts or tables formed of theſe variations, that by diſcovering the variation and latitude of a place, it's longitude might be obtained by conſulting the charts or tables. Several difficulties, however, perhaps inſuperable ones, occur in the proſecution of this theory. The variation of the compaſs appears to be revolutionary round the poles of the earth; the change is noticeable from year to year: this circumſtance alone renders the theory more complicated, if the revolution be even conſtant and regular, as an allowance muſt be always made for the difference of the time of the obſervation, and that of the conſtruction of the tables or charts.

There is alſo a daily change obſerved in the needle, which appears to be vibratory, the variation being greateſt about two or three in the afternoon, the hotteſt part of the day; and this variation is nearly twice as great in ſummer as in winter. Beſides, the needle is liable to be influenced by iron being in it's vicinity, or bodies containing iron, as different rocks, ſoils, and ores; and it alſo ſeems to be affected or diſturbed by the aurora, or ſtreamers. If the magnetic poles were ſufficiently remote from the poles of the earth, and the direction of the needle towards them conſtant and ſteady, this method of aſcertaining the longitude might be reduced to a very ſimple and convenient proceſs; but magnetiſm, as yet, ſeems to be a principle in creation the moſt wavering and capricious: by it's varying influence the needle often changes in the moſt unaccountable manner, and ſometimes different needles ſeem in the ſame ſituation to give different variations.

If a true going time-piece could be obtained, the aſcertainment of the longitude would be rendered very eaſy: by help of ſuch an inſtrument we might readily aſcertain our meridian in any part of the globe.

Furniſhed with a true going watch and a quadrant, if we ſet out with the Greenlandmen, ſuppoſe from London, and proceed towards the north; the farther we advance in the voyage the more the pole will ſeem to riſe in the heavens or ſky, and hence we may know how far we have got to the north: if we find that noon is longer in coming on than we might expect it, from the watch, as rectified for the meridian of London; or, in other words, that the watch is too faſt for the place we are in: this at once informs us that we have got to the weſtward, or towards the American coaſt; on the other hand, if we have noon before it is twelve by the watch, that is before it is noon in London, we may be ſure we have got to the eaſtward: if the difference between the watch and the time of the place we are in be one hour, we have got fifteen degrees eaſtward or weſtward of the meridian of London; if two hours, we have got thirty, and ſo on in proportion.

We

We may leave the whale-fiſhers, and effect, in imagination, the vainly attempted paſſage to the Pacific on the north, if we go right over the pole, when we arrive at that point, the quadrant may as before inform us of our ſituation; the quadrant, however, will here be ſuperfluous, as at one view we ſhall ſee we are in latitude 90°, the heavenly bodies, whether ſun, moon, or ſtars, all ſeeming to whirl round us in circles parallel to the horizon; here the mariner's compaſs can no longer point to the north, to whatever part of the horizon this magic-like inſtrument is directed, it will point to the ſouth, the heavenly bodies alone can be no direction to us here, though unceaſingly moving, they will be always on our meridian, every vertical circle being a meridian here. If, taking one of them as a point of direction, we attempt to ſteer towards it, away to the ſouthwards, it will but mock our vain purſuit; twenty-four hours will convince us of our miſtake; for, at the end of one daily revolution of the earth, we ſhall have arrived at the pole, or the place we ſet out from, if our ſpeed be equable; nor can we alter the matter, by doubling our ſwiftneſs, except only in deſcribing a circuit of twice the length before we return to the ſpot we ſet out from. In this diſtreſsful ſituation, to what expedient can we have recourſe, our quadrant is uſeleſs, the compaſs would fail, and the heavenly bodies, perpetually whirling round us, ſeem but to bewilder us; here, however, our watch ſeems to prove a moſt faithful guide; by it we can ſee when it is, at London, morning, noon, evening, or midnight.

If, when we know that it is 6 in the morning at London, we take our departure from the pole, having the ſun on our right-hand; if we keep ſo travelling forward, that the luminary ſhall by degrees take us in the rear, and againſt 12 o'clock, or the noon of London, be directly behind us; if we ſtill continue travelling forward in the ſame direction, the ſun by degrees takes us on the left, till at 6, or the evening of London, we have it directly on our left-hand; if ſtill travelling forward, when it is night in England we keep the ſun before us, firſt towards our left-hand, at 12 directly before us, and afterwards towards our right-hand:—or, if we be ſuppoſed travelling by ſea, we may expreſs it in other words, if we keep the ſun on our ſtarboard bow, when it is 3 of the morning by the watch, that is, in London; on our ſtarboard beams at 6, on our ſtarboard quarter at 9, right aſtern at 12, or when it is noon at London; on our larboard quarter at 3, on our larboard beams at 6, on our larboard bow at 9, and right a head at 12, or when it is midnight at London:—this will be directly leaving the pole, and proceeding towards the Pacific: this courſe will bring us up with the remoteſt territories of the Ruſſians in Siberia, near the arctic circle, where we find Aſia and America within a few leagues of each other. Paſſing theſe ſtraits, and entering the Pacific Ocean, we find when it is noon in London, or by our reckoning on the watch, that midnight darkneſs envelopes this oppoſite part of the world, by this we know we are in 180° longitude, both eaſt and weſt from London, and by our quadrant we learn our diſtance from the equator. As we proceed towards the ſouth, the ſtars of the northern hemiſphere ſeem to dip below the horizon, and thoſe of the ſouthern

appear to riſe in the heavens. When we croſs the equator, the arctic pole ſeems to ſink from our view, and the antarctic pole ſeems to emerge from the deep. We have the moſt ſouthern capes of Africa or America to double before we can return home. If we ſteer eaſt for America, the day will ſeem to come on quicker and quicker; if weſt for Africa, ſlower and ſlower, till having paſſed one of theſe capes, and got into the Atlantic, the day and our watch perfectly agree. When this is the caſe, we know we are once more on the meridian of London: we have, by the aſſiſtance of the quadrant, to gain the ſame latitude, and at the ſame time, by help of our watch, to keep on the ſame meridian we ſet out from, and this brings us back, after our ideal and moſt ſolitary voyage, to the place we ſet out from. Thus, by a true going, time-keeper the difficulty of finding the longitude would be removed; but all works of art are liable to imperfection from their ſtructure; and, beſides this, the changes of heat and cold, and the motion of travelling militate againſt the regularity of a time-keeper, watch or clock.

28. *Maps, Climates, Charts, &c.*] It is by longitude and latitude the ſituation of places is determined and deſcribed by the moderns. A true map of the world can only be delineated on a globe or ball. Maps, however, are projected upon different principles on plane ſurfaces. If a large ſpace be deſcribed on one of theſe, it muſt neceſſarily be repreſented in a diſtorted manner; but the diſtortion, however, is regular, and any ſmall part of the map in tolerable proportion with itſelf, though not with the whole. The lines that run from north to ſouth in maps are the meridians. All the places that lie on one of theſe, from pole to pole, are in the ſame longitude. The lines that croſs theſe from eaſt to weſt, are called parallels of latitude, as they are really on the globe parallel to each other, and to the equinoctial; all the places that lie on one of theſe are in the ſame latitude quite round the world, or round the poles.

On the margins of the maps, the degrees are marked; and by theſe we know the longitude and latitude of the places contained.

The ancients, in their ſcanty knowledge of geography, and before their invention of the manner of reckoning by the degrees of longitude and latitude, contented themſelves with mentioning the climate as the ſituation of a place.

A climate is a certain ſpace of the earth contained between two parallels of latitude, where the difference between the longeſt day in each parallel is half an hour. The climates decreaſe in breadth in proportion as they advance from the equator to the poles. There are twenty-four climates on each ſide of the equator. The equator is the beginning of the firſt climate, either to the north or to the ſouth. The polar circle is the termination of the twenty-fourth climate. Within the polar circles, the longeſt day increaſes, not by half hours, but by days and months.

Aſtronomers mark the ſtars of every conſtellation, on the celeſtial charts and globes, with the letters of the Greek alphabet, denoting thoſe that are the moſt conſpicuous by α, and calling them of the firſt magnitude;

magnitude; the next by β, calling them of the ſecond magnitude; and ſo on, in ſucceſſion, to ſtars of the fifth and ſixth magnitude.

Geographers ſometimes place the compaſs in a vacant part of a map, to ſhew the bearings of the different places on it, the Fleur de lis always pointing towards the north; but, in maps of general geography, the top is uſually the north; the degrees of latitude are marked on the ſides, and the degrees of longitude, or the difference of time along the top and bottom. If the figures along the ſides increaſe upwards, the country delineated is in north latitude, if downwards, it is in ſouth latitude; if the figures along the top and bottom increaſe from right to left, it is in weſtern longitude; if from let to right, it is in eaſtern longitude. The ſcales in maps are for meaſuring diſtances. Towns and cities are repreſented by a church-houſe, caſtle, or other building, by a ſmall circle; or, if fortified, by an indented circle or oval. Roads are expreſſed by double lines running cloſe and parallel between towns or cities, and ſometimes by ſingle ones, the figures along them telling the diſtance. Rivers are repreſented by black lines, ſmall near their ſource, and growing ſtronger to the ſea. Mountains are ſketched on a map as on a landſcape. Foreſts and woods appear like little buſhes. Deſerts are repreſented by ſmall dots. Bogs or moraſſes, and ſavannahs, are made out by ſhades of parallel lines, and lakes are repreſented by a darker ſhade. The dotted lines, and party-colours in maps, ſerve to diſtinguiſh one country from another, and the line which repreſents the ſhore is ſtrong and ſhaded, or rather lightened off into the water.

In topographical maps, or delineations of ſmall or partial tracts of country, there is not ſo much attention paid to having the north to the top; and the ſame remark applies to ſea-charts.

In ſea-charts the land is often almoſt blank, while the channels, ſoundings, rocks, banks, ſands, &c. are diſtinctly marked; and the ſhading of the coaſt is the reverſe of what it is in maps. The meridians are often drawn in ſtraight and parallel lines, and the lines of latitude are alſo ſtraight parallels croſſing the meridians at right angles. This is called Mercator's Projection. The points of the compaſs are alſo frequently repeated and extended through the whole chart, to ſhew the magnetic points, or the variation of the compaſs. The direction of winds, tides, and currents, is commonly denoted by arrows. Banks, ſands, and, ſhallows, are repreſented by ſmall dots. Rocks are repreſented by ſmall croſſes, or ſometimes by marks repreſenting the points of rocks. Small anchors denote anchorage; and figures expreſs the ſoundings in fathoms.

As Geography is properly and ſtrictly a deſcription of land, ſo a deſcription of water is properly Hydrography.

29. *Planetary Laws.*] There are two principal laws obſerved in the ſolar ſyſtem, which regulate the motions of all the planets.

Firſt. The planets move through the arches of equal areas, (that is of the equal portions of the planes of their orbits) in equal times. A line ſuppoſed to be drawn from any planet to the ſun, is called a Vector Radius; this line, conſequently, deſcribes equal areas. When a planet in it's orbit is receding from the ſun, the attraction of the luminary

minary more directly counteracts it's centrifugal force, and retards it's velocity; at length, the attraction prevails, and the planet begins to approach nearer to the ſun: in this approach the attraction increaſes, as before it counteracted the motion of the planet; the velocity however which it acquires, in it's approach to the ſun, is the very force which again makes it recede from the luminary. Thus it is kept, as it were, ſwinging to and from the ſun; as it recedes, it is retarded by attraction, and kept from flying off through the immenſity of ſpace; as it approaches, it's velocity is increaſed, and this velocity again throws if off, and thus prevents it from falling into the ſun.

Second. The ſquares of the periodical times of the planets, are as the cubes of their mean diſtances from the ſun; hence the proportion of their diſtances are eaſily aſcertained, by comparing the times of performing their orbits: was the real diſtance, therefore, of any of them determined, the diſtances of all the others might be thus obtained. By obſervations of the tranſits of the Venus over the ſun in 1761, and 1769, we now know the real diſtances of the planets from the ſun much better than before, and when the diſtance of an object is known, there are eaſy geometrical rules for deducing it's real bulk, from it's apparent ſize.

30. *Aſcertainment of the Motion of the Earth.*] When aſtronomical doctrines are firſt advanced to us, we liſten with ſurpriſe, and naturally doubt; we aſk, How can aſtronomers meaſure the ſtars, and tell their diſtances, for they are quite above us, and out of our reach; and how can they tell that the earth turns round? If we may believe our own ſenſes, the earth ſtands ſtill, and the ſun, moon, and ſtars daily riſe and ſet, to ſerve us for the purpoſes of light and of heat.

Thoſe who have ſailed in ſhips or in boats, may well remember, when once they had got accommodated to the motion of the veſſel, ſo far from their being ſenſible of its progreſſion, the objects that relatively were ſtanding ſtill, as the houſes, the trees, and the ſhore, appeared to be in motion, while they themſelves, and their veſſel, ſeemed to be quite at reſt; the teſtimony of our ſenſes then alone is nugatory and futile in philoſophical enquiries, and muſt be corrected by reaſoning on the nature of things.

If the moſt prodigious weight, and complication of artificial machinery, that the powers of man could invent and execute, were erected before us; if, among all the variety of motions that could be contrived in it, one ſmall wheel, index, pointer, or hand, ſo minute as to require a microſcope to diſcover it, turned round on it's centre 10,000 times in a ſecond of time, while the larger wheels were days, months, or years, in turning on their reſpective axis; it would certainly be moſt prepoſterous and unnatural to expect, that the little microſcopic wheel ſhould ſuſtain the whole, that it alone ſhould be fixed and firm, and that the prodigious weight and complication of machinery, ſhould be whirled round it 10,000 times every ſecond. Thus unnatural, and inconſiſtent with the laws of the creation, appear thoſe theories in the eye of modern philoſophy, which ſuppoſe that the earth ſtands ſtill, and that the myriads of globes in the firmament are perpetually whirled round in every 24 hours; for aſtronomers find by obſervation,

ſervation, that our earth is in ſize but as a ſmall and dimenſionleſs point, if compared with the diſtance of the fixed ſtars; and that even our whole ſolar ſyſtem, is but as a minute ſpot, in what is nightly ſeen of the creation.

31. *Aſcertainment of the Diſtances and Magnitude of Objects.*] To conceive how they aſcertain the diſtance and magnitude of the planets, will be difficult for thoſe who are acquainted with the ſcience of geometry: perhaps, however, an idea of the principles on which their calculations are founded, may be gathered from what is obſervable on earth; and firſt, if walking along a ſtraight road, we paſs any object on the right or left, as a tree or a tower; if the object lie cloſe to the road, a very little diſtance will make a conſiderable difference in it's bearing from us; at a very ſhort diſtance before we come up to it, it ſhall appear almoſt directly before us, ſoon we ſhall be abreaſt of it, and as ſoon we ſhall leave it behind us; but, if the object be at a great diſtance from the road, we ſhall travel along for ſome time with it nearly abreaſt of us, and from hence we might form ſome eſtimation of it's diſtance, if we had nothing elſe to guide us; in fact, by meaſuring a portion of the road, and obſerving the exact direction that lines would take, if pointed from the extremities of that portion of the road to the object in view; or, in other words, by obſerving the angles theſe lines would make with the road, a geometer might eaſily calculate the diſtance of the object from the road; on theſe principles, rather more complicated, they compute the diſtance of the planets. It is eaſily to conceive, if right lines are pointed from the geometer on the road to the extremities of the object, theſe lines will vary their direction, or form an angle more or leſs acute, according to the breadth of the object; but the diſtance being already aſcertained on the principles of the triangle, he calculates as before, and thus determines the diameter of the object: we may readily ſee, how the ſame method of inveſtigation is applicable to the planets; their very great diſtance, however, from us, renders the angles ſo ſmall, that the difficulty attending it ſhould ſeem obvious and almoſt inſurmountable. The place of the ſun, or of a planet in the heavens, as it would appear to an obſerver, if ſeen from the centre of the earth, is the ſame as it appears to an obſerver immediately under it. An obſerver on the ſurface of the earth, to whom the object is not vertical, muſt look at the object in a rather different direction; the different lines of direction, along which they muſt look, make an angle at the object; this angle is called it's parallax; but the greateſt parallax poſſible is ſo very little, even the ſemi-diameter of the earth being ſo ſhort a line, when compared with the diſtance of the object, that it is difficult to determine it: hence it is, they have availed themſelves of the tranſit of the Venus, or it's intervention between the earth and the ſun, to aſcertain the diſtances of the planets; ſtill, however, on the ſame principles, though vaſtly more complicated. The diſtance of a planet being aſcertained, yet an object ſo very far diſtant appears but as a ſpot, or a point of very ſmall or dimenſionleſs magnitude; here the teleſcope lends it's aſſiſtance, and, indeed, without it, but little could be done in this way. As viewed through the teleſcope the object is magnified, or it appears under a greater angle; it is cal-

culated on optical principles, how much bigger the object appears to us, or how much nearer it ſeems to be brought towards us, by means of the inſtrument; and this apparent approach being thus aſcertained, it's magnitude is calculated as if actually brought nearer to us.

SECTION III.

The Solar Syſtem, and Starry Heavens.

The names and characters adopted by aſtronomers to expreſs the planets are as follows, in their order, wherein they roll round the ſun. Fig. 34.

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Mercury. Venus. The Earth. Mars. Jupiter. Saturn. Herſchel.

32. *The Sun in the Centre.*] The ſun appears to be an immenſe globe of fire, nearly a million times as large as the earth. It is placed in the centre of the ſyſtem, and is ſuppoſed to give light and heat to the ſeven primary and fifteen ſecondary planets, that have been diſcovered to move round it. By ſpots in it's diſc it has been found to turn round on it's axis in about twenty-five days. Theſe ſpots are frequently altering in their ſhape, ſituation, and number: and various have been the conjectures reſpecting theſe phenomena. Some have thought that the ſun is an opaque body, mountainous, and uneven, as our earth is, and covered all over with a fiery and luminous fluid, ſubject to ebbing and flowing, like our tides; and hereby ſucceſſively concealing and unveiling the tops of the rocks and hills which appear like black ſpots. Others have imagined that the fluid, which ſends us ſo much light and heat, contains a nucleus, or ſolid globe, wherein are ſeveral volcanos, that like Etna, or Veſuvius, from time to time, caſt up vaſt quantities of bituminous matter to the ſurface of the ſun, and form thoſe ſpots which are ſeen thereon; and that as this matter is gradually conſumed by the luminous fluid, the ſpots diſappear till another eruption takes place. Some have thought that the ſun conſiſts of a fiery luminous fluid, wherein are immerſed ſeveral opaque bodies of irregular ſhapes, which are ſometimes buoyed or raiſed up to the ſurface, where they form the appearance of ſpots, which ſeem to change their form accordingly as their different ſides are preſented to view; others, that the ſpots are formed of a groſs matter, like the ſcum of melted metal, and that theſe ſcums, as differently agitated, are formed into ſpots, or abſorbed. Again it has been ſuppoſed, that the ſun is made up of two kinds of matter, that by far the greateſt part is ſolid and dark, and that this dark globe is encompaſſed with a thin covering of that reſplendent ſubſtance, from which the ſun would ſeem to derive it's vivifying heat and energy; and that when any part of this reſplendent ſurface is diſplaced, the encloſed globe appears in an unignited and comparatively dark ſtate, which ſeems to indicate that the luminous matter that encompaſſes it derives not it's ſplendor

from

from any intenſity of heat; and it has been imagined by ſome, that the interior, may form regions ſerene and beautiful, equalling all that has ever been fabled of the Elyſian fields.

If, however, reaſoning from what we know, we look at this great luminary, and conſider it's effects as well as it's appearances, perhaps it may ſeem the moſt natural concluſion, that it is no other than an elementary fire; like that, it affords us light and heat, and when it is viewed through the teleſcope, the glaſſes being ſmoked or coloured, or when it's image is caſt upon a white ground, through a teleſcope, it ſeems to diſcover a ſimilar but vaſtly greater inteſtine motion. In this way the ſpots are ſeen to increaſe and diminiſh in magnitude, and to change their ſhapes, ſomething in the manner that our clouds do, or like combuſtibles in an intenſe fire, what is a facula or bright ſpot at one time, becoming a macula or cloud at another; what is now but one ſpot in a little time breaking into two or three, and ſometimes two or three ſpots coaleſcing and uniting into one. In this way, a roundiſh ſpot, by eſtimation, not much leſs in diameter than our earth, has been ſeen to break into two, which receded from one another with prodigious velocity; and in this way, a ſpot has been obſerved to break to pieces, and ſlide in various directions, like a piece of ice, when daſhed on a frozen pond.

In the decompoſition of things in our fires upon earth, the parts fall into aſhes, or aſcend in vapour, and the fire becomes extinct; we may hence be induced to expect a conſumption of the ſun, without a continual ſupply of combuſtible matter. We ought, however, to remember that the ſun, which, by it's attraction, keeps the ſpheres in their orbits, does not probably, like our little fires, loſe the materials which have been decompoſed; but, that they may ſtill continue to form a part of this immenſe congeries of ever-ſtirring matter, this ocean of liquid fire, and that the ſun may thus be ſaid in degree to miniſter to it's own conſumption, or to feed it's own fires.

33. *Order of the Planets.*] The Mercury is the firſt planet in the order of the ſyſtem. It is computed to be about 37,000,000 miles diſtant from the ſun, and to move at the rate of 105,000 miles an hour, completing it's orbit in about 88 of our days, or little leſs than three months, which is the length of it's year. It is not much larger than the moon, being about 3200 miles in diameter, and exhibits the ſame difference of phaſes; being ſometimes horned, ſometimes gibbous, and ſometimes nearly full, though not entirely, becauſe it's enlightened ſide is never turned directly towards us, but it is at all times perfectly well defined, very bright, and without any ragged edge.

It is ſo near the luminary, that we can ſeldom ſee it; and when we do, it is for ſo ſhort a time, and moſtly in twilight, that we can diſcover no ſpots on it's face, and therefore we know nothing of the length of it's days and nights. If the Mercury have it's inhabitants adapted to the heat of their ſituation, it has been concluded that, at the time of their equinox, they muſt have a temperature, within ten degrees of their poles, equal to the warmer regions of our earth: and that, in their hotteſt climates, water would

would continually boil, and our inflammable ſubſtances would be parched up, deſtroyed, or converted into vapour.

The Venus, the ſecond planet from the ſun, remarkable for it's brightneſs, is computed to be 68,000,000 miles from it, and to move round it at the rate of 76,000 miles an hour, completing it's annual revolution in 224 days, 17 hours, or above 7½ months. It's diameter is 7700 miles, and it's diurnal revolution is performed in 23 hours, 22 minutes. It's ſeaſons are more diverſe than ours on earth; it's mountains have been calculated to be higher than thoſe of the moon, and, like it, it has different phaſes. A moon alſo, or ſatellite, having a ſimilar phaſe, has at different times been ſeen to accompany it.

When it is to the weſt of the ſun, it is a morning ſtar; when to the eaſt, it is an evening ſtar.

It is computed that the greateſt heat on the Venus, exceeds that of the coaſt of Guinea, about as much as the latter exceeds that of the Orkney iſlands; that, therefore, at 60 degrees latitude on that planet, if it's axis were perpendicular to the plane of it's orbit, the heat would not exceed the greateſt heat on the earth, and that of courſe vegetation, like our's, might there be carried on, and animals of the ſpecies, which are on earth, ſubſiſt.

Our Earth is the third planet in the order of our ſyſtem. It's diameter is 7900 miles, and it turns round on it's axis in the courſe of a day. It's diſtance from the Sun is 95,000,000 miles. It is attended by one moon, and moves at the rate of 58,000 miles an hour, completing it's orbit in the courſe of a year, during which time, we have twelve lunations, which ſeems to have given riſe to the diviſion of our year, into twelve months; but this diviſion, more nearly, though not exactly, correſponds with the diviſion of the zodiac into twelve ſigns.

The Mars is the fourth planet from the ſun, from which it is diſtant about 144,000,000 miles. It moves at the rate of 55,000 miles an hour, and completes it's orbit in a little leſs than two of our years. It's diameter is 4200 miles, and it's rotation on it's axis is performed in about 24 hours and 39 minutes. When we paſs near it, it has a fiery appearance, and is often miſtaken for a comet; but when we are on the oppoſite ſide of our orbit, it appears ſmall and ſcarcely to be diſtinguiſhed from a fixed ſtar. The analogy between the Mars and our earth is, perhaps, by far the greateſt in the ſolar ſyſtem. Their diurnal motion is nearly the ſame, and the obliquity of their reſpective ecliptics is not very different. It is rather flat at it's poles, like our earth, and theſe appear brighter than the other parts of it's ſurface, occaſioned, it is thought, by the ice and ſnow in it's polar regions: theſe ſpots are largeſt, when turning out of their nearly twelve month's winter, and leaſt when returning into it, after having been ſo long expoſed to continual light. This planet, when neareſt to us, is generally gibbous; on it's ſurface are ſeen ſpots and appearances like belts; it's atmoſphere ſeems remarkably denſe, and it is computed that it's warmeſt climate is not colder than many parts of Norway and Lapland are in ſpring and autumn.

The Jupiter is the fifth planet in the order of our ſyſtem, and the largeſt

largeſt that has yet been diſcovered, being nearly a thouſand times as large as our earth. It is five times the diſtance from the ſun that we are, and enjoys but a twenty-fifth part of the light, heat, and attraction of the luminary that we do; for the proportions of theſe are inverſely as the ſquares of the diſtances; four moons, however, ſeem to cheer the inhabitants, if ſuch there be, of this diſtant planet. It has no variety of ſeaſons; it's year is equal to about twelve of ours, and yet it's day is not quite half as long as ours. From it's turning ſo ſwiftly round on it's axis, it's figure is more oblate than that of the earth, being more than ſix thouſand miles longer in it's equatorial than in it's polar diameter: this ſwiftneſs of it's diurnal motion, alſo draw it's clouds and vapours into ſtreaks or lines over it's equatorial parts, forming what is called Jupiter's belts. Theſe ſometimes change their appearances, and their number is very variable. It is perhaps owing to this circumſtance, that the ſpots on the planet's ſurface, vaniſh and reappear, and ſometimes ſeem to break, or be divided into ſmaller pieces. The Jupiter is computed to be about 490,000,000 miles from the ſun, to go at the rate of 29,000 miles an hour, and to be 890,00 miles in diameter.

The Saturn is the ſixth planet from the ſun, and is about 900,000,000 miles diſtant from it: it is carried along it's orbit, at the rate of 22,000 miles an hour; which it completes in 29½ of our years. It's diameter is computed to be 79,000 miles; but, on account of it's immenſe diſtance, and the deficiency of light, occaſioned by ſo remote a ſituation, the length of it's day has not yet been aſcertained. It has ſeven moons or ſatellites, continually revolving round it, beſides a broad thin ring, ſet edgeways round it, which reflects light, and caſts ſhade upon it.

The ring is detached from the body of the planet, in ſuch a manner, that the diſtance between the innermoſt part of the ring and the orb, is equal to it's breadth: being commonly viewed obliquely, it appears of an oval form, and through very good teleſcopes, double, the inner ring appearing the brighter. A ſtar has been ſeen through the opening, between the planet, and the ring. Sometimes our eye is in the plane of the ring, and then it appears as a dark line acroſs the planet's diſc, or is inviſible, either becauſe the outward edge is not fitted to reflect the ſun's light, or becauſe it is too thin to be ſeen to ſuch a diſtance. Among the various conjectures that have been made reſpecting the very ſingular appearance of the ring, that accompanies this planet, ſome have ſuppoſed it to be the fragments or ruins of it's exterior original ſhell, the reſt of which has fallen down, and formed the preſent orb. If the ring itſelf be inhabited, they muſt have a day and night, nearly equal to thirty of our years, as the ſun ſhines for almoſt fifteen of our years on the northern ſide, then goes off, and ſhines as long on the ſouthern ſide. Neither the Jupiter's, nor the Saturn's moons, nor yet the ring, can be ſeen without a teleſcope.

The Herſchel is the ſeventh planet in the order of our ſyſtem, and is twice as far diſtant as the Saturn from the ſun, and will be nearly 83 years in going round it. It is ninety times as large as the earth, and is viſible to the naked eye on a clear evening, if the moon be abſent. Two moons, or ſatellites, have alſo been diſcovered revolving round it. The cold is ſuppoſed to be extreme at this diſtant planet, as the light is computed

puted to be leſs than a three-hundredth part of what we enjoy on our earth.

Theſe we conſider as the regular bodies of our ſyſtem, ſo regular indeed, that their phenomena may be pretty exactly calculated for ages. There may be other planets, which human obſervation has not yet diſcovered, and which, perhaps, it never may.

34. *Origin of Aſtrology.*] Every planet, as well as the moon, may be in conjunction, oppoſition, and in quadrature, or in a quartile a ſpect, with the ſun. Theſe terms are alſo uſed in a like ſenſe, when applied to any two of the heavenly bodies. Thus the ſun and moon, or the moon and any planet, or any two planets, may be in conjunction, oppoſition, or quadrature. Beſides theſe, the ancients reckoned other two aſpects, the trine and the ſextile; the former, when the bodies were diſtant 120 degrees, and the latter, when only half that diſtance. The aſpects are marked, by aſtronomers, by the following characters;

Conjunction.	Oppoſition.	Quadrature.	Trine.	Sextile.
☌	☍	□	△	⚹

The aſpects have been ſuppoſed to influence the affairs of mankind, and on this notion, has been founded the conjectural ſcience of aſtrology. Judicial aſtrology is commonly ſaid to have been invented in Chaldea, and thence tranſmitted to the Egyptians, Greeks, and Romans; but in later times, it's introduction into Europe was through the Arabs. It might well enough agree with the mythology of the polytheiſts of antiquity, to conſider the heavens as one great volume or book, wherein was written the hiſtory of the world, and in which every man might read his own fortune, and the tranſactions of his time; but how the Mahometans and Chriſtians could adopt the idolatrous ſyſtem of the Heathens, ſhould ſeem perfectly unaccountable, were it not that there is nothing too abſurd for the credulous and ſuperſtitious to receive. It ſeems, however, unneceſſary to combat this ſyſtem, however ingenious, with the weapons of religion, or philoſophy. The art is moſt obviouſly at variance with itſelf: the preceſſion of the equinoxes, has ſo far deranged the ſyſtem, that the ſigns of the zodiac do not now fall in their proper original conſtellations; but if the ſigns or ſeaſons are to be regarded, inſtead of the conſtellations, the inventors of aſtrology ought to have formed a different ſyſtem for the ſouthern hemiſphere of our earth, as the winter ſigns, of that part of the world, are thoſe of our ſummer, and our winter ſigns, are the ſummer ones of the ſouthern hemiſphere. Again, the diſcovery of the ſeventh planet, completely deſtroys the ſyſtem, as it's ſuppoſed influence has not been taken into the account: for how buſy may it not have been, the inviſible rogue! baffling every attempt of the profound aſtrologer, when he erected his horoſcope, or caſt his figures, and diſturbing all his deſtinies. This art, by which the credulous part of mankind has ſo often been impoſed on, and by which the later Europeans have been not leſs infatuated than the ancients, is now pretty generally exploded, and can hardly ſurvive the preſent accelerating downfal of ſuperſtition, though at this time there are ſome expiring efforts making towards it's revival.

35. *Order of the Comets.*] The planets are not the only moving bodies, to be obſerved in the heavens; we are ſometimes viſited by comets, which

which may alſo be conſidered as a part of our ſyſtem; but of the number, uſe, and revolution of theſe, our knowledge is very imperfect; they ſeem, however, far to exceed the number of the planets. They are ſo numerous, that no fewer than 450 are ſuppoſed to belong to our ſolar ſyſtem.

Like the planets, they are obſerved to be opaque bodies, ſhining only by the influence of the ſun, and like them are carried along in their orbits, by the combination of the centripetal and centrifugal forces; ſometimes ſeeming to go forwards, ſometimes backwards, and ſometimes to be ſtationary. It is in their periods, as the planets, becauſe the great eccentricity of their orbits, makes them liable to ſuffer conſiderable alterations, from the attraction of the planets, and of each other.

It ſeems, therefore, to prevent diſturbances in the ſpheres, that while the planets revolve all of them nearly in the ſame plane, the comets are diſpoſed in very different ones, and diſtributed over various parts of the heavens. The tails of the comets appear to be ſteams and vapours exhaled from their bodies, and the groſs atmoſpheres that ſurround them; and, like ſmoke, they are always in the plane of the comet's orbit, and oppoſite to the ſun; except that their extremities incline towards the parts which the comet has left, and they perfectly reſemble the ſmoke of a burning coal, which, if the coal remain fixed, aſcends from it perpendicularly; but, if the coal be in motion, aſcends obliquely from the motion of the coal: the tails, however, are of ſo ſubtile and fine a vapour, that like electrical and borealian light, it does not refract the light of the fixed ſtars; we can ſee them diſtinctly through it.

They are called comets, from their having a long tail, ſomewhat reſembling the appearance of hair. This, however, is not always the caſe; for ſome comets have appeared, which were as well defined, and as round as planets; but in general, they have a luminous matter diffuſed around them, or projecting out from them. Theſe bodies ſometimes loſe their ſplendor ſuddenly, while their apparent bulk remains unaltered. Their apparent magnitude is very different: ſometimes they ſeem only of the bigneſs of the fixed ſtars; at other times, they will equal the diameter of the Venus, and ſometimes, even of the ſun or moon. In 1652, Hevelius obſerved a comet, which ſeemed not inferior to the moon in ſize, though it had not ſo bright a ſplendor, but appeared with a pale and dim light. He obſerved of the comet, which appeared in the early part of 1661, that it's body was of a yellowiſh colour, bright and conſpicuous, but without any glittering. In the middle was a denſe ruddy nucleus, almoſt equal to the Jupiter, encompaſſed with a much fainter, thinner matter. The nucleus ſoon grew bigger and brighter, and appeared divided into a number of parts or nuclei, one of which, much denſer and brighter than the reſt, was round, and repreſented a little lucid ſtar. In about a week, the nuclei became more obſcure and confuſed, and the whole head much diminiſhed, both in brightneſs and magnitude: two weeks afterwards, it's roundneſs was a little impaired, and the edges lacerated; a month after which, it's matter was much diſperſed, and no

diſtinct nucleus appeared. The nucleus of the comet of 1618 is ſaid, a few days after coming into view, to have broken into three or four parts of irregular figures. One obſerver compares them to ſo many burning coals; and ſays, they changed their ſituation, while he was looking at them, as when a perſon ſtirs a fire, and a few days after, were broken into a great number of ſmaller pieces. Another account of the ſame comet, is, that on the 1ſt and 4th of December, the nucleus appeared to be a round, ſolid, and luminous body, of a duſky lead colour, larger than any ſtar of the firſt magnitude: on the 8th, it was broken into three or four parts, of irregular figures; and on the 20th, was changed into a cluſter of ſmall ſtars. Comets have often alſo, different phaſes, like the moon. Fig. 35.

As the tail of a comet is owing to the heat of the ſun, it grows larger, as the comet approaches nearer to, and ſhortens, as it recedes from that luminary. If the eye be in a line, drawn through the middle of the tail, lengthways, the whole will appear round, as in fig 36; if out of that line a little, it will appear ſhort, as in fig 37, and it is called a bearded comet, when the tail hangs down towards the horizon. If the tail of a comet be viewed ſideways, it's length is ſeen, which ſometimes ſeems bent, as in fig. 38, when the earth is not in the plane of the comet's orbit continued; when that plane paſſes through the eye of the ſpectator, the tail appears ſtraight, as in fig. 39, 40.

As it has ſeldom happened, that this diſtracted world has been clear of wars or other public diſorders, the comets could hardly viſit us at a time of perfect peace all over the world. And thoſe who look for omens of impending calamities, in the natural or eſtabliſhed order of things, behold, with awe or terror, the approaches of the comets, as certain preſages of direful events; and generally find it not difficult to diſcern, that diſturbances have happened about the time in ſome part of the earth. This is enough to fulfil the prediction, and confirm their credulity. On the other hand, ſome philoſophers have not only ſuppoſed them to threaten, but even to perform ſtill greater events. They have conjectured them to deluge the worlds they have approached, merely by the influence of their attraction, on the waters of the planets. They have imagined them to fall into the ſun, and to knock off, by the percuſſion, prodigious ſparks from it's body, which, cooling by degrees, and falling into proper orbits, have become habitable worlds.

Indeed, we know not, but the macula on the ſun's diſc may be principally comets, fallen on the ſun, or ready to be projected, like ſparks from the culinary fire, and to be drawn into their very eccentric orbits by the attraction of the ſun, in it's ſmall orbit, acting moſt forcibly on them at their outſet, and drawing them out of that right line, they would otherwiſe have moved forward in The macula apparently on the ſun's ſurface, may yet, ſome of them, be comets in their peribelions between us and the luminary, and many there may be near the ſun, when we do not ſuſpect their preſence. Seneca relates from Poſſidonius, that a comet was ſeen, when the ſun was eclipſed, which had before been inviſible, through the ſun's ſuperior light.

light. It has been thought that thoſe darkneſſes which are mentioned in hiſtory, to have happened at times when the moon could not be interpoſed between the ſun and the earth, muſt have been occaſioned by comets in their perigee, between our earth and the ſun. Such was the eclipſe mentioned by Dion, which happened a little before the death of Auguſtus; and it is obſervable, that Seneca ſaw a comet that year.

The periods of the comets, which have been obſerved, vary from 75 to 575 years; and though their motions are not ſo regular as thoſe of the planets, the returns of ſome of them have been calculated.

36. *Diſtance &c. of the Stars.*] The proſpect that the heavens afford us, is that of a vaſt vault or concave, ſpangled with an innumerable multitude of ſhining bodies. On lifting up our eyes to this magnificent theatre, we are ſtruck with aſtoniſhment at the ſplendor and vaſtneſs of the ſcene; and without farther conſidering the firmament than as an appendage to our earth, as a ſplendid canopy ſpread over it, we are wrapt in ſilent wonder. It's height ſeems immeaſurable, and the diſtance of the heavenly bodies, particularly near the horizon, appears to be immenſe: yet evidently vaſt as is the ſcene, inconceivably diſtant as are the ſhining orbs which beſpangle the azure ſky, their apparent diſtances and ſizes are but as a ſpan, a ſpot, an atom, or a point, compared with their real dimenſions.

The traveller, weary and panting under the heat of noon, with languid ſtep, heavy and ſlow, caſts his eyes over the extended landſcape, broods over the diſtance between him and his intended goal, and is diſſpirited with the long and dreary way.

The mariner, becalmed, deſcries the diſtant hills emerging from the deep, and faintly breaking the line of his horizon, and meaſures, in imagination, the leagues that lie between him and his deſired port; he anxiouſly wiſhes for the coming of the breeze, that may 'near' the hills, and may waft him to the place where he is wont to hail his friends aſhore.

But what are theſe diſtances? what the magnitude of the whole globe? what the diſtance of the moon? of the ſun? what the extent of the whole ſolar ſyſtem? and the orbit of the Herſchel is more than thirty-ſix hundreds of millions of miles; moreover, the comets are launched out into the heavens, many millions of miles beyond this orbit; what are even theſe diſtances? The whole ſolar ſyſtem is conſidered, by aſtronomers, as but a ſpot or ſpeck, compared with what is nightly ſeen in the firmament.

All the ſtars that appear to us to decorate the ſky, with the whole milky way, that ſhining zone of light, encompaſſing the heavens, is conſidered but as forming one ſtratum or congeries of ſhining orbs, but one of an innumerable number of them, which ſeem to be ſcattered about in the unbounded expanſe! And the Sirius, which is the neareſt to us of all the ſtars, in the ſtratum in which our ſolar ſyſtem is placed, and of which our ſun forms one ſtar in the innumerable multitude, is ſuppoſed to be four hundred thouſand times the diſtance from the ſun that our earth is, or (38,000,000,000,000,000) thirty eight millions of millions of miles. That ſhining zone, the galaxy, is reduced,

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by help of the teleſcope, into diſtinct ſtars, each of which is ſuppoſed to be as far diſtant from the others, as our ſun is from thoſe which ſurround it: and the whitiſh ſpots or nebulæ, in the different parts of the heavens, it is ſuppoſed, may be each of them a ſtratum or congeries of ſtars. On application of the teleſcope to ſome of the neareſt of theſe, the individual ſtars are diſcovered, which, by their multitude, make out this general whitiſh or ſhining appearance. Still, however, we meet with no limits to the vaſt expanſe; for, on more and more increaſing the powers of the teleſcope, new nebulæ ariſe farther and farther diſtant.

It is ſuppoſed, that light would be nearly three thouſand years in reaching us, were it to come from the moſt remote ſtar in our ſtratum, at the rate of twelve millions of miles every minute; then how prodigiouſly remote muſt thoſe nebulæ be from us, which are not reducible into diſtinct ſtars by the teleſcope! According to the aſſumed diſtance of ſome of them, light muſt be about forty thouſand years in reaching our earth.

When we regard theſe proſpects, we ſeem, from our little world, to look out into infinity. Imagination is incompetent to form any idea of bounds; it fails to comprehend, to faintly conceive any adequate idea of the diſtances that have even been aſcertained.

37. *Changes in the Starry Heavens.*] As the ſtars, contrary to the moon and planets, ſhine like our ſun, by their own native light, aſtronomers ſuppoſe, that each of them is a ſun, with it's ſyſtem of inhabited worlds revolving round it. Under this idea or perſuaſion, of how innumerable a family do we ſeem to make a part! The immenſity of the univerſe becomes peopled with fellow-beings, and we feel an intereſt in what appears to be going on at diſtances ſo vaſt, that what we ſee, as in time preſent, we have reaſon to believe, ſwift, inconceivably ſwift, as is the progreſs of light, darting from the ſpheres, we have reaſon to believe, muſt have happend many ages ago. Under the idea of the univerſe being repleniſhed with living beings, how magnificent, how awful, are the ſpectacles that preſent themſelves to the obſerver of the heavens! The creature of a day, of a few fleeting moments, ſeems to obtain a glimpſe of a new creation, a glimpſe of the end of time, in the paſſing away of a ſyſtem.

Of all the phenomena, which have attracted the attention of mankind, the ſudden appearance of, apparently, new ſtars, and the diſappearance of old ones, appear to be the moſt wonderful. This ſeems as if a planetary ſyſtem were diſſolved; that, as if a new one were brought into exiſtence. An appearance, of the latter ſort, firſt led Hipparchus to compoſe his catalogue of the ſtars, in order that poſterity might be apprized of the true ſtate of the heavens at that period; and ſince his time, many changes of the ſame nature have been obſerved, both by ancient and modern aſtronomers.

While ſome ſtars, obſerved by the ancients, are now no more to be ſeen, but are thought to be deſtroyed, and while new ones have appeared, which were unknown to the ancients, others have been obſerved ſlowly to change their places: ſome have been found to have a periodical increaſe and decreaſe of magnitude, ſome have vaniſhed and reappeared

reappeared as at ſtated times, and others have undergone theſe changes irregularly.

Among the, apparently, new ſtars which have been diſcovered by the moderns, two have ſhone out with very great ſplendor, and in leſs than two years have totally vaniſhed. The former appeared, in 1572, in that part of the heavens called Caſſiopeia's Chair; the latter in that called Serpentarius in 1604. It has been thought that even theſe are periodical ſtars, and that the former returns once in 150 years. The periods of change, in thoſe ſtars which have been aſcertained to be regular, vary exceedingly: ſome paſſing through their changes in a few days, others not for ſeveral years. Reſpecting theſe changes in the ſtars, it has been thought, that one ſide of them might be naturally much darker than the other, that when the ſtar, by its revolution on it's axis, had it's dark ſide turned towards us, it became inviſible, and that it reſumed it's former luſtre on the light ſide reappearing. It has been imagined, that the ſudden blaze of ſome ſtars may have been occaſioned by the falling of a comet into them, by which means they would be enabled to emit a prodigious light for a little time, after which they would gradually return to their former ſtate. And, it has been ſuppoſed that ſome ſtars, by their prodigious quick rotations on their axes, may not only aſſume the figures of oblate ſpheroids, but that by the great centrifugal force ariſing from ſuch rotation, they may become of the figure of mill-ſtones, or be reduced to flat circular planes, like the Saturn's ring, ſo thin as to be quite inviſible when their edges are turned towards us. But when very eccentric planets or comets go round any ſuch flat ſtar, in orbits much inclined to it's equator, their attraction in their perihelions muſt alter the inclination of the axis of that ſtar, and it will appear more or leſs large and luminous as it's broad ſide is more or leſs turned towards us. Reaſoning from analogy, we do not ſuppoſe that the light of any ſtar can be in any ſenſible degree eclipſed by ſo ſmall a body as one of it's own planets, at ſo immenſe a diſtance from us. But if, really, there be any ſuch thing as a new ſtar, if any of the old ones do actually paſs away, (for the changes in the ſtarry heavens which may bear that appearance in our view, may yet be regular revolutions at periods of ſuch extent as to involve in them many of the paſſing ages of mankind,) may we not very naturally ſuppoſe, that the chaotic and dark maſs, to which a ſyſtem may hereby be reduced, or from which a new ſyſtem may be formed, may we not ſuppoſe it to be a body ſufficiently large to produce, by it's intervention, a complete occultation of any ſtar or ſun? We may any of us form notions reſpecting theſe wonderful phenomena, but all our ideas of their real cauſe muſt be uncertain and conjectural.

37. *Structure of the Starry Heavens.*] While for the purpoſe of calculating the motions of the planets, and indeed of deſcribing every appearance in the firmament, it is convenient to conſider the heavens as a vaſt concave or ſphere, which they really ſeem to form to our view, they are now regarded, from the moſt extended obſervations that have been made therein, as an unlimited expanſe, containing ſtrata, or cluſters of ſtars, with their accompanying planets of different ſizes, and variouſly arranged or directed. When we view the

 milky-way,

milky-way, it is thought that we then look through a great length or depth of the ſtars; when we view the other parts of the heavens, that we are then looking out at the ſides of our ſtratum, where there is a leſs depth of ſtars, and conſequently a thinner diſplay of them on the azure ſky. According to this, there muſt be the appearance of a milky way to other parts of the ſtratum; and alſo to the inhabitants, if ſuch there be, of the planets that attend the ſtars which compoſe other nebulæ, ſome of which are ſuppoſed to be much larger than that in which we are placed.

As the ſtars and nebulæ are unequally diſtributed in the heavens, conjectures have been formed on the origin of their different diſpoſitions. If it were poſſible, ſays Herſchel, to diſtinguiſh between the parts of an indefinitely extended whole, the nebulæ we inhabit might be ſaid to be one that has fewer marks of antiquity than any of the reſt. He attributes the condenſation of cluſters of ſtars to a gradual approach effected in many ages, and aſcribes a certain air of youth and vigour to many very regularly ſcattered regions of our ſidereal ſtratum. He judges from appearances, that the ſtars are drawing towards ſecondary centres, and will, in time, ſeparate into cluſters, ſo as to occaſion many ſubdiviſions; that our ſyſtem, after numbers of ages, may very poſſibly become divided, ſo as to give riſe to a ſtratum of two or three hundred nebulæ; for it would not be difficult to point out ſo many beginning, or gathering cluſters in it. He thinks that ſome parts of our ſyſtem ſeem already to have ſuſtained greater ravages of time than others; that, for inſtance, in the body of the Scorpion, there is an opening or hole, and on the weſt border of it one of the richeſt and moſt compreſſed cluſters of ſmall ſtars, which would almoſt authoriſe a ſuſpicion, that the ſtars, of which it is compoſed, were collected from that place, and had left the vacancy. He ſuppoſes that the particular ſtars, belonging to ſeparate cluſters, are prevented from ruſhing on to their centres of attraction, by projectile forces, the admiſſion of which will prove ſuch a barrier againſt the ſeeming deſtructive power of attraction, as to ſecure from it all the ſtars belonging to a cluſter, if not for ever, at leaſt, for millions of ages; and that we ought perhaps to look upon ſuch cluſters, and the deſtruction of a ſtar now and then in ſome thouſands of ages, as the very means by which the whole is preſerved and renewed. That theſe cluſters may be the laboratories of the univerſe, wherein the moſt ſalutary remedies for the decay of the whole are prepared.

In ſpeaking of the planetary nebulæ, by which name he diſtinguiſhes thoſe ſpots that are all over equally luminous, he ſays, that if it were not perhaps too hazardous to purſue a former ſurmiſe of a renewal in what he figuratively called the laboratories of the univerſe, the ſtars, forming theſe extraordinary nebulæ, by ſome decay or waſte of nature, being no longer fit for their former purpoſes, and having their projectile forces, if any ſuch they had, retarded in each other's atmoſphere, may ruſh at laſt together, and, either in ſucceſſion, or by one general tremendous ſhock, unite into a new body; and that, perhaps, the extraordinary and ſudden blaze of a new ſtar in Caſſiopeia's Chair, in 1752, might poſſibly be of ſuch a nature.

38. *Number*

38. *Number of the Stars.*] Ere the powers of viſion were yet increaſed by artificial means, in the ſimple ages of antiquity, it was uſual to expreſs an innumerable multitude, an unbounded number, by comparing it to the ſtars of the heaven, or to the ſand which is upon the ſea-ſhore. The daring enterprize, as it was accounted by Pliny, of reckoning the former, was firſt undertaken, among the Greeks, by Hipparchus, the Rhodian, who lived about 120 years before the Chriſtian era. From his own obſervation, and thoſe of the ancients that preceded him, he inſerted in his catalogue 1022, annexing to each of them the latitude and longitude which they had at that time. Ptolemy added four to this number; and many others were afterwards diſcovered by different aſtronomers who applied themſelves to this ſubject. The ſhining multitude, that is viſible to the naked eye, however numerous it may appear from the irregular and ſcattered diſpoſitions of the ſtars, is, when reduced into forms, more eaſily reckoned than might be imagined. All the ſtars that can be ſeen in the whole viſible hemiſphere are not above 1000; but when the teleſcope is applied to the heavens, they appear to be infinite in number. The ſtars inſerted in the catalogue by Flamſtead amount to about 3000, which number has been ſince augmented to nearly 5000 by Halley, La Caille, Le Monnier, and others; and, from the accuracy of their obſervations, their is ſcarcely a viſible ſtar, the ſituation of which, in the heavens, is not better known than that of moſt cities and towns upon the earth. Herſchel, in ſurveying the via lactea with the teleſcope, has found, that by allowing 15 minutes for the diameter of his field of view, a belt, or ſpace in the ſky of 15 degrees long, and two broad, which he had often ſeen paſs before his teleſcope in an hour's time, could not contain leſs than 50,000 ſtars, large enough to be diſtinctly numbered, beſides which he ſuſpected the preſence of twice as many more, which could be ſeen only now and then by faint glimpſes, for want of ſufficient light. In the moſt crowded parts of the milky-way he had fields of view that contained no fewer than 588 ſtars, and theſe were continued for many minutes, ſo that in one quarter of an hour's time, there paſſed no leſs than 116,000 ſtars through the field of view of his teleſcope. He thinks that the ſtratum, in which we are placed, may contain many millions of ſtars. In viewing the ſtars ſome of them ſeem double, but this appearance ariſes from two of them, at different diſtances from us, being nearly in the ſame line.

As all the ſtars, viſible to the naked eye, with the whole milky-way, are ſuppoſed to conſtitute only one of thoſe apparent patches in the heavens, called nebulæ, how prodigious muſt be the number of inhabited worlds, if every ſtar have it's ſyſtem of planets, with their inhabitants. The nebulæ, already diſcovered, amount to many hundreds, and their diſpoſition and ſhape, as ſeen from our earth, are various. They appear double and treble, variouſly arranged; large, with ſmall ſeeming attendants; narrow, but much extended, like lucid or bright daſhes: ſome are of the ſhape of a fan, reſembling an electric bruſh iſſuing from a lucid point; others of the coſmetic ſhape, with a ſeeming nucleus in the centre, or like cloudy ſtars, ſurrounded with a nebulous atmoſphere. A different ſort, again, contain a nebuloſity of

the milky kind, while others ſhine with a fainter and mottled kind of light.

39. *Motion of the Stars, &c.*] It ſeems to be a fact, confirmed by aſtronomical obſervations, that many of the ſtars, which we call fixed, are really in motion, though that motion be either ſo ſlow in itſelf, or their diſtance ſo great, that it is ſcarcely perceptible in half a century. This motion is diſcovered in the Arcturus, Sirius, Aldebaran, Procyron, Caſtor, Rigel, Altair, and many others; and it is ſuppoſed, that there may not be one fixed ſtar in the heavens; that, on the principle of attraction, if one ſtar be in motion, the others muſt be affected thereby; that our ſun is in motion, and carries it's ſyſtem of worlds along with it, and that there is a general motion of all the ſtarry ſyſtems.

If the ſame mechanical or phyſical laws pervade the whole ſtarry regions, which Newton has diſcovered to regulate the ſolar ſyſtem, we muſt naturally ſuppoſe that motion is neceſſary to balance that of attraction throughout the whole material univerſe. We obſerve in the earth and moon, that by the centrifugal force they are prevented from falling upon each other; but what prevents them from falling together to the ſun? the centrifugal force. But what prevents the ſolar ſyſtem from falling to ſome of the ſtars? If we ſuppoſe it is by being balanced, in being attracted in different ways by different ſtars, we muſt expect that the ſtars on the outſide, if there be any bounds to creation, to the works of an Infinite Being, will ruſh inwards, till all be involved in one maſs or heap, unleſs we ſuppoſe a general motion of the whole univerſe round one common centre, or unleſs the whole ſtarry heavens be bounded by ſome great material vault, by the attraction of which on the ſpheres they are prevented from ruſhing together. This latter idea ſeems groſs; the former ſuppoſes every thing in perpetual motion, an affection of which matter ſeems as ſuſceptive as it is of reſt, being equally indifferent to both.

In conſidering the order of the ſpheres, we diſcover, as far as we can comprehend it, a certain beauty, ſimplicity, and regularity, in their courſes; but we cannot fathom the whole. The ſpace wherein they roll is to our view unbounded; but whether ſpace be infinite, without top or bottom, or whether it have limits, is to our finite capacities utterly incomprehenſible; equally ſo, whether it be bounded or endleſs. In the contemplation of theſe things, the human underſtanding is bewildered, and all our faculties are overpowered and loſt in the unfathomable abyſs, in the unbounded expanſe, even of the viſible creation.

N.B. Since the article on the ſolar ſyſtem was printed, it appears William Herſchel has diſcovered the Saturn's rotation on its axis to be completed in about ten hours and a quarter.

PART

PART II.

THE

ECONOMY

OF THE

SUBLUNARY WORKS OF CREATION, INANIMATE AND LIVING.

HAVING taken a view of the figure of the earth, and contemplated our globe, as undergoing the viciſſitudes of day and night, and the courſe of the ſeaſons from it's planetary revolutions; having obſerved the laws of motion in general, conſidered the ſolar ſyſtem as influenced thereby, and having taken a view of the univerſe at large, as far as the conjectures of aſtronomers can carry us, we may now deſiſt from aſtronomical excurſions; and in the varied and ever changing, the ſublunary works of the creation, find an inexhauſtible field for admiration and ſtudious reſearch; and for the mind that can receive it, an awful and inſtructive leſſon of mortality.

It is not the fleecy cloud, floating in the air, or ſweeping along, borne on the wind, the purling ſtream, the gliding river, or precipitated cataract, haſtening to the deep; it is not the graſs of the field, the trees of the foreſt, the animated tenants of the earth, the air, or the waters, growing to maturity, or poſting to decay; it is not theſe alone that paſs away; the fields themſelves, the everlaſting hills, the vaſt extended ocean, theſe alſo have their viciſſitudes; and it ſeems to be a law, inſcribed in intelligible characters on the face of all material things, that they ſhall be ſubject to continual change.

SECTION IV.

Of the Four Elements, Diviſibility of Matter, Perpetual Motion, Chemical Laws, &c.

40. *The Four Elements.*] Various were the ſyſtems which philoſophers imagined, relative to the number and nature of the elements, to which the various compoſitions of bodies may be reduced, till Democritus, Ariſtotle, and Empedocles acknowledged, as

firſt principles, air, water, earth, and fire. Their opinion has been well received for many ages; and this ſimple and beautiful analyſis, though totally incompetent to expreſs or exhibit the preſent ſtate of knowledge, is not without it's excellence. Perhaps, however, it would ſtill better accord with our imperfect view of things, when unaided by the experiments and obſervations of the philoſopher, to conſider only air, water, and earth as elements, and to regard fire as an incomprehenſible ſort of agent, to which theſe bodies are continually ſubjected. Adopting this ſyſtem, how ſimple, how beautiful, how ſublime and comprehenſive is our philoſophy! All material things, we ſay, are reducible to the three elements, air, water, and earth; and, by means of fire, the whole creation is unfolded or brought forth, and by different degrees of it the whole economy of things is ſuſtained or deſtroyed. Without heat the fertile earth becomes a hard and barren clod; we have no longer ſhowers of rain, or rivers of water, but the earth and the water, with all their productions, whether living or inanimate, are ſtiffened in frigidity, and the law, which ſubjects all things to a continual circulation of decompoſitions, and ſucceſſive generations, is ſuſpended. There is no more vegetation; animal life is extinct, and vegetable and animal ſubſtances ceaſe to decay. The genial warmth of the ſun's beams renews the face of things, the icy fetters of rivers and ſeas are diſſolved; miſts and exhalations are raiſed to fall again in dew or ſhowers, and give riſe to rivers: the plants put forth their leaves, bloſſoms, and fruits, and the animated tribes of creation rejoice; and, when the diſſolution of theſe creatures takes place, they return to their original duſt, to give birth or ſuſtenance to ſucceeding generations of animals and plants. The air, ſurrounding on all parts our habitable world, is, by different degrees of heat, agitated into breezes or winds; the meteors and the ocean partake of it's motions, and thus an unceaſing circulation is kept up.

Exceſs of heat decompoſes the different kinds of bodies. The groſs particles are reduced to earth, in form of aſhes or ſoot, while the moiſt fly off in vapour.

Such is the view, which ſeems naturally to preſent itſelf to us, on regarding the works of creation. The philoſopher ſtops not here; he ſubdivides all our elements, and even our ſeemingly never-reſting agent, fire, which we could not ſee, except in its effects, which we could form no conception of as a ſubſtance, he analyſes. He divides it into light and heat. The former he decompoſes, or reduces into diſtinct and ſeparate rays; the latter fluid, when in a ſtate of liberty, he purſues through the various bodies which it ſucceſſively enters, modifies in various ways, and quits; he detects it, even when it paſſes into a ſtate of combination, when it is latent, and ſeems extinct, and in it's various degrees, he contrives to ſubject it to rigorous calculation, or meaſurement. One thing, however, is common to the ſimple obſerver of nature, or of the order or economy of creation, and to the moſt profound enquirer, the moſt acute experimentaliſt; it is this, in all our reſearches we can only regard matter in a maſs; we cannot lay hold of the particles whereof the maſſes are formed.

41. *Diviſibility*

41. *Diviſibility of Matter.*] We have already ſeen, how naturaliſts account for the planetary revolutions, and how large a ſhare of the work they attribute to attraction; how they reſt the order of the ſpheres, and of ſublunary things, on this prevailing principle, for their ſupport. They tell us of a variety of kinds of attraction, as thoſe of coheſion, gravitation, magnetiſm, and electricity. It is true, we may obſerve many very different appearances of attraction; but poſſibly they may all be only different modifications of the ſame prevailing principle, by which all things in the natural world are upheld. For ought we know, the original particles of matter, abſtracted from all combination (if this ever happen, or can poſſibly be) may be all the ſame; and the ſmalleſt atom of matter that human obſervation can lay hold of, by help of the fineſt microſcope, may be compoſed of ten hundred times ten thouſand millions of the original uncompounded particles of matter. It is found, however, that a living animal, which, under the ſimpleſt economy that it is ever found to exiſt in, is a complicated and wonderful machine, often, through it's minuteneſs, eſcapes the fineſt human eye: witneſs the animalcula, diſcoverable only by help of glaſſes; and myriads there are, no doubt, that eſcape all human obſervation.

When we conſider theſe things, we ſeem to look down into infinity; and, as, in the contemplation of the ſtarry heavens, we can conceive no term to the extenſion of ſpace; ſo, in regarding the minute parts of creation, we ſee no end to the diviſibility of matter. We are loſt in wonder, when we attempt to comprehend either the vaſtneſs or minuteneſs of creation, and are neceſſarily made to feel that it belongs only to the one great and incomprehenſible Power, which worketh in ways paſt finding out.

Philoſophers think they can conceive it poſſible for the world, and even the whole univerſe, to be reduced to a globe of an inch diameter, or even to the ſmalleſt ſize, merely by bringing the particles of which they are compoſed cloſe together; and thus filling up the cavities or pores. They ſay, it is not difficult to underſtand, how a body, hard and ſolid, may be compounded of particles, ſo formed, that when brought together, the pores between them may be equal to the particles themſelves. In this caſe, the ſolid matter of the body, takes up only half of the ſpace occupied by the whole. If each conſtituent particle be formed of other leſs ones, in the ſame manner, the ſolid parts of the body are only one-fourth of the whole. If the leſs particles be conſtructed of ſimilar minute ones, the ſolid parts of the body are only one-eighth of it's bulk. If the minute ones are formed in ſimilar manner, of ſtill more minute ones, the ſolid is one-ſixteenth of it's apparent bulk, and ſo on, ad infinitum; but the real ſtructure of bodies, we know not, therefore, the whole material univerſe may be ſo conſtructed, as to be capable of being reduced to the ſmalleſt ſize, merely by bringing the particles of which it is compoſed into cloſe contact.

But if we muſt become their diſciples, and grant theſe poſtulata, may we not in our turn obſerve, that it is not difficult to underſtand, how a body, hard and ſolid, may be compounded of particles, ſo formed, that when brought together the pores may be leſs than the

particles themſelves; and if a ſimilar conſtruction prevail in the particles compoſing theſe through ſubdiviſions, as above, ad infinitum, will it not follow, that the whole univerſe may be reduced to ſomething leſs than nothing?

We have already ſeen how the motions, and even the figures of the ſpheres are accounted for. Their orbits, and their ſpheroidal forms, depend on the combination of the centripetal force with attraction; a principle which ſeems to be inſtituted throughout the whole creation. Hitherto we have only conſidered this univerſal law as acting upon large maſſes of matter indiſcriminately, keeping things together in heaps, if we may be allowed the expreſſion, at leaſt, cauſing no other order in the diſpoſition of things, but what ariſes from their different quantities, or different degrees of denſity or gravity. That moſt ſimple and beautiful figure, the ſphere, is the form into which theſe maſſes of matter are naturally reſolved, and the laws, which regulate the motions of the ſpheres, ſeem ſimple, when compared with the ſublunary parts of creation. We eaſily comprehend the order of things in the celeſtial concave: it is mechanical. In contemplating the ſublunary works of creation, we are loſt in the endleſs variety: it is chemical. Such are the diſtinctions which we are obliged to make; but if our dull ſenſes were ſufficiently acute, we ſhould perhaps ſee, that theſe diſtinctions are unnatural, and that attraction, in all it's modifications, is a principle one and the ſame.

Were the attraction of gravitation alone to obtain, whatever may be the preſent irregular appearance of the globe, it ſhould ſeem it's ſurface would ſoon aſſume the ſmootheſt form. All works of art muſt tumble to the ground; and the ſea, and it's ſhores, the river, and it's banks, the mountains, and their valleys, and even man and brute, with all their powers, and all their animation, muſt give up their bodies to the general mixture; or to the diſpoſition that would hereby prevail among bodies to lie in ſtrata, or layers, according to their different denſities. Such are the effects that would take place, were earth, water, air, and fire, ſimple elements; or, indeed, if there be any ſuch things as ſimple elements of different denſities, this diſpoſition in layers would take place; but it ſeems more probable, were, what we call, the attraction of gravitation alone to exiſt, that the general mixture of things would be a true chaos, or perhaps an homogeneous maſs of atoms. Theſe effects, however, ſeem prevented; and the order of things nicely balanced and ſuſtained, by the ſeveral partial attractions of coheſion.

To this prevailing principle, in the natural world, we may refer the moſt complete and curious productions. This we may behold and admire; and were it in our power to modify this principle according to his wiſhes, we can hardly imagine a labour too difficult for his achievements. Indeed, on ſuperficially glancing at ſome particular effects of coheſion, he might be flattered, for a moment, with the expectation of producing ſomething great; and, by their combination, he might hope to effect what ſome wrongheads have ſtrangely attempted; he might imagine it poſſible to contrive a machine, that ſhould work of itſelf, or keep it in perpetual motion, and thus enable his fellows

lows to ceaſe from their labours: at preſent availing ourſelves of winds and of waters, by lifting a flood-gate, by hoiſting a ſail, or by applying of fire, as in the ſteam-engine, we have many uſeful labours performed: but could ſuch a machine be conſtructed by the art of man, as to keep in perpetual motion of itſelf, we then might ſucceed in the moſt extravagant attempts. The farmer need then no longer wait for his horſes to break up the ground; his ſelf-impelled machine might be brought to perform this laborious buſineſs. The mariner need no longer be detained by the calm, nor the citizen by that painful diſorder, the gout; each, in his machine, could anſwer every purpoſe of navigation or buſineſs; and, if weary of being confined to the ſurface of the globe, I know not but each man in his machine might at once aſcend on high, and outſtrip the fleeteſt inhabitant of the air.

The effects of coheſion alluded to, which might make man look for theſe prepoſterous diſcoveries, and forget that labour is to be his lot; and that no machine can give new ſtrength, ſeeing it will take from him time, if it give force to his efforts; and, if it give them ſwiftneſs, it will leſſen their force. The effects are theſe; water, and other fluids, are made, by coheſion, to riſe above their level. A piece of bread, loaf-ſugar, or a ſponge, will attract or draw up a fluid. The ends of a ſmall glaſs tube, being both open, if one end be dipped in water, the fluid will riſe in the tube to a conſiderable height above the level; now if the tube, when it has thus received the fluid, would of itſelf contract in it's diameter, and cloſe up the cavity from the bottom upwards, and open or dilate in the ſame order, the water might hereby riſe and run over at the top of the tube, and thus produce a perpetual motion: but theſe are effects the art of man can never accompliſh. Theſe ſeem to obtain, however, in the works of the creation, and there only are to be found; on this ſimple proceſs, which no human art can imitate, all natural life ſeems to depend; in this way, the herb ſeems to draw it's juices from the earth; and the tree it's ſap, to the remoteſt branches. Thus, in the bodies of all animals, nutriment ſeems to be ſecreted from their food; their fluids circulated; and, indeed, their every action performed, whether deſigned or involuntary.

42. *Affinity of Compoſition.*] The diſcoveries which philoſophers have made in the ſublunary works of creation are great. Every ſubſtance, which they have found unalterable, by the chemical methods of decompoſition, they have conſidered as a ſimple or elementary ſubſtance; and the number of elements has accordingly varied, according to the progreſs and revolutions of chemiſtry. They even imitate, or produce, by recompoſition, many of the unorganized parts of creation, and alſo form compounds which are not found in nature. They ſay, that bodies of different kinds have a tendency, or attraction, towards each other, which is more or leſs ſtrong; and that it is by virtue of this force, that all the changes of compoſition, or decompoſition, obſerved amongſt them, are effected; and this ſeems abſolutely true throughout the whole mineral depa tment, or wherever the conſtruction of bodies is not fibrous, or organized.

It is ſo much the more difficult to decompoſe a body, as it's conſtituent principles are united or retained by a greater force. Gaſes, and

eſpecially vapours, continually tend to combination, becauſe their aggregation is weak; but ſolids will not combine with ſolids, till they are firſt reduced to a fluid ſtate, or, at leaſt, attenuated by extreme diviſion. Were it not for this law in creation, that bodies tend to unite and combine, in proportion as they approach to their primitive, or elementary ſtate, the maſs of elements would continually increaſe by ſucceſſive and uninterrupted decompoſitions, and we ſhould inſenſibly return again to that chaos, or confuſion of principles, which is ſuppoſed to have been the original ſtate of the globe. If all bodies had the ſame degree of affinity with each other, no change could take place among them; but, the affinities being varied, and each body having appointed to it, it's relation with the various ſubſtances preſented to it, it ſeems to chuſe to unite with one in preference to another; and hence, this kind of affinity has been called elective attraction. It is in conſequence of this difference, in the affinities, that all chemical decompoſitions are effected: all the operations of art, and all the changes in the ſublunary works of creation ſeem to be found upon it.

The affinity of compoſition has received different names according to it's effects. It is divided into ſimple affinity, double affinity, the affinity of an intermedium, &c.

1. Two principles, united together, and ſeparated by means of a third, afford an example of ſimple affinity: when, for inſtance, a ſolid is held in ſolution by a liquid, and a third body is added, which has a greater affinity to one of the bodies, in the compoſition, than they have to each other, it combines with it, and the other body is diſengaged or diſplaced. The liquid, in which the ſolid diſappears, is called the ſolvent, or menſtruum; and that which falls to the bottom, in the decompoſition, is called the precipitate. An alkali precipitates metals from their ſolutions. The precipitate is not always formed by the diſengaged ſubſtance; ſometimes the new compound itſelf is precipitated.

2. It often happens, that the compound of two principles cannot be deſtroyed, either by a third or a fourth body ſeparately applied; but if theſe two bodies be united, and placed in contact with the ſame compound, a decompoſition, or change of principles will then take place. This phenomenon conſtitutes the double affinity.

3. There are caſes, in which two bodies, having no perceptible affinity to each other, obtain a diſpoſition to unite by the intervention of a third; and this is called the affinity of an intermedium. An alkali is the intermedium of union between oil and water; hence the formation of ſoaps, the theory of lixiviums, &c.

The compound, which reſults from the complete combination of two bodies, (for we muſt not conſider ſimple mixture, as affinity of compoſition, or combination,) poſſeſſes properties totally different from thoſe of it's conſtituent principles. Hence ſome inveterate poiſons of different kinds, when combined, ſo neutralize the obnoxious qualities of each other, as to become an innocent potion. From what a variety of bodies we derive nouriſhment, conſequently chyle, blood, &c. and differently conſtructed plants in the very ſame ſoil, and, under the ſame outward circumſtances, elaborate wholeſome and delicious fruits,

fruits, or deadly poiſon. In the mineral department, or the unorganized part of creation, every thing is ſubjected to the invariable laws of the affinities. No internal principle modifies the action of natural agents; and hence it ariſes, that their effects may be foretold, produced, or modified. In the vegetable department, the action of external agents is equally evident; but the internal organization modifies their effects, and the principal functions of vegetables ariſe from the combined action of external and internal cauſes. Hence the principal organs of vegetation are diſpoſed upon the ſurface of the plant, in order that the various functions might, at the ſame time, receive the impreſſions of external agents, and that of the internal principle of the organization. In animals, the functions are much leſs dependent on external cauſes, and the principal organs are concealed in the internal part of their bodies, as if to withdraw them from the influence of foreign powers. The application of chemical principles to the phenomena of the human body is very difficult, becauſe they are ſubordinate to the animal economy, or vital principle, and the organization is not only very complicated, but the effects are continually varied, by the powerful influence of the mind. There ſeems to be a ſurpriſing reciprocity, a moſt intimate nearneſs between the body and the mind; when the body is in health, the mind feels the energy, and when the ſpirits are kept up, the health of the body is promoted. In ſome diſeaſes the humours are decompoſed in the body, and, it ſeems, in ſuch caſes, as if the vital principle abandoned the government, and left the ſolids and fluids to the deſtructive action of external agents; in conſequence of which, they become decompoſed, in the ſame manner as they uſually do when ſeparated from the body, and when the principle of animality is once departed, the effects are accelerated.

On whatever part of the creation we caſt our eyes, it is altogether wonderful. Whether is it an infirmity, or an excellence in our nature, that we are ſtruck, or captivated by what is uncommon? We are accuſtomed to the view of the great ſpectacle of creation, we are familiarized with the feelings of our own exiſtence, incomprehenſible wonders are perpetually about us and in us, and yet we regard them without admiration, and without ſurprize. In art, what a curioſity to ſee a reel in a bottle, or a ball, cut out of the ſolid, rattling in a carved ſtick! They ſometimes form amuſive articles in a muſeum; but, is the kernel in it's ſhell, or are the peas in their pods leſs curioſities? Chains, alſo, cut out of wood, or paper are curious; but ſurely they are not more ſo than thoſe tendons in the hands and feet, which perforate, or are perforated, and paſs one through another. Throughout the whole of organized creation, there appears ſo much deſign, ſuch proviſion made for every purpoſe, ſuch elegance of ſtructure we cannot but admire; but in the mineral department, where, in the formation of bodies, we ſhould only expect to ſee the coming together of atoms in a tumultuous, irregular, or accidental way, how are we rapt in aſtoniſhment at the appearance of a regular, or determinate figure!

The particles which are brought together, and united by affinity, whether they be of the ſame nature, or of different natures, continually

tend to form bodies of a polyhedral, conſtant, and determinate form. When this beautiful law in creation, by which the the different productions are impreſſed with regular forms, began to be noticed, the cryſtallizations were diſtinguiſhed, according to the inaccurate reſemblance they bore to other known bodies. Hence the denomination of cryſtals in pyramids, needles, points of diamonds, croſſes, ſword blades, &c. Since that time, more accurate obſervations, and more preciſe ideas ſeem to have been formed on theſe geometrical figures. It has been thought, that each cryſtal has a nucleus, or primitive form, the ſimple modifications, and ſhades of which, are diſtinguiſhable in the cryſtals of all analogous or identical ſubſtances; and the cryſtallization of bodies, though liable, from various circumſtances, to be changed and modified in a thouſand manners, has been yet adopted, as a baſis, for the method of claſſification in the mineral department.

Philoſophers tell us, that the principal agent employed in nature, to balance the power and natural effect of attraction, is fire. By the natural effect of attraction, we ſhould poſſeſs none but ſolid and compact bodies; but the caloric, or heat, unequally diſperſed in bodies, tends inceſſantly to deſtroy the adheſion of the particles; and it is to this principle that we are indebted for the varieties of conſiſtence, under which bodies preſent themſelves to our obſervation. The various ſubſtances that compoſe this univerſe, are, therefore, ſubjected, on the one hand, to a general law which tends to bring them together; and, on the other hand, to a powerful agent, which tends to remove them from each other: it is upon the reſpective energy of theſe two forces, that the conſiſtence of all bodies depends. When the affinity prevails, they are in the ſolid ſtate; when the caloric is moſt powerful, they are in the ſtate of gas, and the liquid ſtate appears to be the point of equilibrium between theſe two powers. We may readily receive theſe aſſertions, according to our own ſimple analyſis; but will chemical preciſion admit ſuch a language? We have been informed, that heat is a body, and after all that we have heard of the affinities, may we not even refer the apparent extenſions, diſperſions, and repulſions of bodies to attraction? The particles of bodies do not touch, elſe how could bodies contract by cold? The caloric, or heat between the particles, eſcapes, by which means they come together. Heat expands bodies; the caloric inſinuates itſelf between the particles, ſeparates them, and combines with them.

The various ſtates, under which bodies preſent themſelves to our view, depend, almoſt entirely, upon the different degrees of combination of caloric with thoſe ſame bodies. Fluids do not differ from ſolids, but, becauſe they conſtantly poſſeſs, at the temperature of the atmoſphere, the doſe or quantity of caloric, which is requiſite to maintain them in that ſtate; they congeal, and paſs to the concrete ſtate, with greater or leſs facility, accordingly as the requiſite quantity of heat is more or leſs conſiderable. All ſolid bodies ſeem capable of paſſing to the gaſeous ſtate; even the moſt refractory metal melts, ſublimes, or is diſſipated in vapour, if a very ſtrong heat be applied to it.

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As the economy or order of the natural world ſeems to depend on a ſucceſſion of ſolution and cryſtallization, of evaporation and concretion; ſo the philoſophers, in their reſearches, are principally engaged in proceſſes of this ſort. It is by theſe means, that they apparently reduce to their conſtituent principles, many of thoſe bodies which appear, to common obſervation, elementary ſubſtances. They know, however, after all their reſearches, that they can but very imperfectly unveil the ſecret things of creation; that the bodies, which they denominate elements, as the reſults of their analyſes, may yet be compound ſubſtances, and that it would be arrogance to ſuppoſe, that the term where the artiſt ſtops, is the place where the ſtructure or economy of creation begins.

SECTION V.

Of the Mineral Department, or unorganized Part of Creation, including the Fluids, &c. as Electricity, Light, Heat, Atmoſphere, Meteors, Water, &c.

Having conſidered ſome of the general laws in creation, we may now enter a little into the detail of the parts of it; firſt remarking, that there may be many ſubſtances, which are not yet diſcovered, both within and without us, and which, from the dulneſs of our ſenſes, perhaps never may. We ſpeak of different ſubſtances, becauſe ſubſtances appear to us differently; perhaps, however, they are only different modifications of one original ſubſtance, and all the different appearances may be referable to the different modes of attraction, by which their component particles are kept together.

43. *Magnetiſm.*] The moſt ſilent and ſecret of all the material things we are acquainted with, ſeems to be the magnetic fluid. Perhaps it's influence prevails every where, though it's preſence be only diſcoverable by iron. It is ſuppoſed that the loadſtone emits an effluvia attracted by iron, and fine or thin enough to paſs through groſs bodies; that hence a needle, lying on the top of a table, may be moved, on applying the magnet or loadſtone underneath; that there are mines of this ſtone in the northern parts of the globe, large and powerful enough to influence it's kindred body, iron, all over the world; that the pieces of iron and ſteel, which we ſee in common uſe, or lying about, have their poles, or particular parts adapted, to receive the effluvia; that they are all making weak, though inviſible efforts to turn this pole, or extremity, towards the mines of the north; that generally not being able to ſubdue ſurrounding obſtructions, their efforts are enfeebled; but when they are balanced, as the needle in the compaſs, and particularly when prepared like it, they aſſume their moſt natural poſition; and, in maintaining it, gather attractive ſtrength; and thus ſerve to guide the miner in the darkſome cavern, the pilgrim in the deſert, and the mariner on the ocean; when ſtars and land-marks are no longer in view.

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The magnet, or loadſtone, is a true iron ore, and the ſmalleſt pieces of it has it's poles. That pole which points towards the north, is ſaid to be really it's ſouth pole In different magnets, the oppoſite poles attract each other; that is to ſay, the north pole of one magnet attracts, or is attracted by the ſouth pole of another. It ſeems to be ſhewn by nice experiments, in ſcattering ſteel filings round a magnet, that there emanates a fluid, from one of it's poles, which paſſes externally to, and enters the oppoſite pole, the filings falling into the direction of the magnetic ſtream or atmoſphere. If this be the caſe, may we not ſee, in the ſmalleſt magnet, a miniature repreſentation of the magnetiſm of the whole earth? Iron is one of the moſt univerſally diffuſed bodies in the univerſe; it exiſts in the bodies of animals and plants, as well as in the mineral department; and may not the nucleus of the whole earth be a prodigious magnet, giving out, at the northern pole, a conſtant ſtream or flood of the magnetic fluid, and receiving it at the ſouth pole. In this caſe, we may readily conceive of a magnet or magnetic needle, ſuſpended by a thread, floating on a piece of wood, or balanced as in the compaſs, we may readily conceive that it's northern pole, giving out it's little ſtream of magnetic effluvia, would be preſſed towards the ſouth, by the general magnetic flood; and that it's ſouthern, or receiving pole, would be attracted towards the north; we may alſo eaſily comprehend how the northern poles of different magnets, by their emiſſion of the magnetic fluid, ſeem to repel the each other, while the receiving and emitting poles of different magnets ſtrongly attract each the other, and become as one continued magnet. The polarity of magnetiſm appears to be communicated, deſtroyed, or inverted, by various means. All theſe effects are produced in iron, by it's being differently touched or rubbed by the loadſtone; by being heated and cooled in different ways; by being long continued in particular poſitions: thus iron window-bars and fore irons, from their upright ſituation, often acquire the magnetic virtue; by being hammered, thus ſteel tools often become highly magnetic; and by lightning or an electric ſhock. From this laſt circumſtance, it has been thought, that a conſtant and regular circulation of the whole maſs of the electric fluid may be the original cauſe of magnetiſm in general. Perhaps magnetiſm and electricity are different modifications of the ſame incomprehenſible principle; perhaps the contrary poles in magnetiſm, are analogous to the contrary kinds, or rather modifications, of electricity; both magnetiſm and electricity ſeem in many inſtances equally fickle or capricious, if we may be allowed the expreſſion; equally evaſive of the purſuit of the philoſopher. The poles of the magnet, in different parts of the globe, are differently inclined towards a point under the horizon: this is called the dip of the needle. The poles do not incline exactly to the poles of the earth: the declination of the needle from the poles, is called the variation of the compaſs. The variation is different in different parts of the world, and even in the ſame place at different times.

In this country, the variation is at preſent weſterly, and it increaſes every year; it was about 12 degrees eaſterly at the latter part of the 16th

16th century; there was no variation about the middle of the laſt century, but at this time it is above 20 degrees to the weſt.

There is alſo a daily change in the needle; it gradually moves a little weſtward, till two or three in the afternoon, after which, it as gradually falls back again; this variation is nearly twice as great in ſummer as in winter; and it appears alſo to be affected or diſturbed by the auroræ or ſtreamers. Thoſe beautiful meteors, which hardly fail to divert and delight in their ſeemingly capricious vagaries, when the gloomy horrors of ſuperſtition do not deform the ſcene, in boding of wars; and which actually enliven the tedious night of winter, to the little people round the pole, lighting them to their buſineſs and ſports, on the ice or ſnow. The ſtreamers or auroræ, in the northern regions of our atmoſphere, are ſuppoſed to ariſe from the electric fire, flaſhing as it paſſes from cloud to cloud.

Perhaps the magnetic effluvia may abound in thoſe parts, and concur with the electric fluid in producing thoſe phenomena, by which the electric fire may perhaps be diſſipated; and the northern regions thus freed from the dreadful effects of lightning, experienced in other parts. In the ſouthern hemiſphere alſo, in a high latitude, ſtreamers have been ſeen. Theſe in contradiſtinction, may be called Auroræ Auſtrales.

44. *Electricity.*] Electricity, in general, ſignifies the operations of a very ſubtile fluid, which ruſhes through ſome bodies with inconceivable velocity; theſe are called conductors. At others it ſtops; theſe are called non-conductors. The non-conductors are glaſs, and all vitrified bodies; diamonds of all kinds; balſamic and bituminous bodies, as reſins, wax, ſulphur, amber, &c. &c. The coverings of animals, as feathers, wool, hair, briſtles, ſilk, &c. by rubbing of theſe, we ſeem to collect around them an electrical atmoſphere; and thus excited, they will attract light bodies of the conductor kind; as gold-leaf, paper, ſtraws, &c. The ancients were only acquainted with this property of attraction in amber (electrum); it is found, however, to hold with the other non-conductors; hence they are called alſo electrics. Conductors, on the other hand, are called non-electrics. No rubbing or excitation of theſe, will collect or agitate the electrical fluid; but if ſuſpended by hair, or ſilk-cord, or ſupported by glaſs, or any of the electrics, at a ſufficient diſtance from the floor, wall, &c. (which latter are conductors, and communicate with the earth) they may be charged, as it is called, with poſitive or negative electricity. The conductors, or non-electrics are all metals, and the greateſt part of minerals; water, and all aqueous and ſpirituous liquors; and whatever contains in them any of theſe; as living creatures and animal ſubſtances; as leather, bones, ſhells, &c. trees and plants; thread, ropes, paper, &c. even glaſs itſelf, or any of the electrics, if moiſtened or wet, become thereby conductors; and will not collect the electrical fluid till wiped or dried. Heat alſo makes electrics become conductors; while water, being frozen, becomes an electric.

The electric fluid ſeems to be ſo generally diffuſed, as to enter into the ſubſtance of almoſt all natural bodies. Though inſenſible of it's preſence, we have it in ourſelves, and the objects that are around

us,

us, and the ground that we tread upon, have their ſhare, though we do not perceive it. In fact, it is ſo extremely ſubtile, or fine, as to eſcape the cognizance of our dull ſenſes; and it is only detected in the phenomena and effects it produces, when being put in motion, it ruſhes from one part to another, in order to reſtore the equilibrium which has been interrupted. Thus it is with the lightning; ſometimes it ruſhes from the clouds to the earth; at other times from the earth to the clouds, as well as from one cloud to another.

Similar effects take place in the electrical experiments of the philoſopher. If he place us on a cake of reſin, a piece of glaſs, or one of his ſtools, with glaſs ſupporters, by the interpoſition of theſe electrics, or non-conductors, between us and the earth, the communication between the electric fluid in our bodies, and that in the earth, is cut off. He ſays, we are inſulated; and indeed with regard to electricity, we may even be conſidered as clouds floating in the air. Under theſe circumſtances, by means of his machine, he draws from us the electric fire in our bodies, and we are negatively electrified; or he charges us with ſtill more of the fire, and we are poſitively electrified. If a perſon, ſtanding on the floor, touch us, at a time when we are negatively electrified, the fire will be drawn by our bodies from the earth, and ruſh through him, as a conductor; a ſpark will be ſeen and heard between us, which may be conſidered as a miniature repreſentation of thunder and lightning; and both he and we will feel it. If he touch us at a time when we are poſitively electrified, the ſame effects will take place as before; excepting this difference, the fire will be drawn from us through his body, and paſs into the earth; and thus the equilibrium be reſtored as before. By attaching conducting ſubſtances to the oppoſite ſides of electrics, and placing us in a line of communication between them, not only ſparks will take place, as above, but ſhocks. Theſe can be made ſo ſtrong as to ſtrike animals with inſtant death, and even to melt or calcine metals, or to reſtore them from their calces. By eaſy experiments, the electrical fluid is alſo drawn from, and diſcharged into, the clouds and atmoſphere. The experiments, however, are dangerous, when not made with judgement, and, in one inſtance, proved mortal. At Peterſburg, in 1753, an electrician, having drawn the lightning into his room, and being about to meaſure it with an inſtrument, was ſtruck dead, and his friend, at ſome little diſtance from him, was much hurt.

From the univerſal preſence of the electric fluid, and from it's effects, it has been concluded, that it comes from the ſun, the ſource of light; that it is, in a great meaſure, abſorbed by the earth; that becauſe of the continual ſucceſſion of light from the ſun, it is impoſſible it ſhould remain here; that after it once enters the earth, it loſes it's natural form of fire or light, which it again recovers, in a tranſient way, under circumſtances ſimiliar to thoſe, wherein the ſolar light burns; that is, in diverging from, or converging to, a point or focus, as in all the inſtances of lightning in nature, and of ſparks and ſhocks in the uſe of the electrifying machine. That the ſun, by it's force, in continually emitting, or ſhooting forth the ſolar light through immenſe ſpace, gives that force and velocity obſervable in the motions of the electric

electric fluid; and that it is wholly owing to the preſſure being leſſened in particular parts, that the phenomena and effects of lightning are produced, for, that, in this caſe, the electric matter is preſſed to the part, where the violation or interruption of the equilibrium takes place, with the impetus or momentum by which the light is emitted from the ſun. That the electric fluid, like the atmoſphere and other fluids, is ſuſceptible of two different kinds of motion, viz. a vibratory one, ſimilar to ſound in the air, or waves in the water, ariſing from agitation; and a progreſſive one, ſimilar to winds and ſtreams; that while it paſſes progreſſively through, or more commonly along, conductors with immeaſurable velocity and force, and ſtops at the electrics or non-conductors, theſe latter are, notwithſtanding, penetrable by the fluid, but that it's motions through theſe are generally of the vibratory kind; that the electrics, for inſtance, glaſs and the air, are ſubſtances into which the electric fluid is very apt to enter; that poſitive and negative electricity are only different motions of the fluid, the poſitive being a motion outward, and the negative a motion inward; that while the vibratory motion acts in electrics, and thus hinders the electric fluid from ruſhing through them at once, it yet admits a ſlow paſſage of it, and it is the excitation of this ſlow paſſage or motion only, that produces all the phenomena of lightning and electricity. When on different ſides of a piece of glaſs, or on different ſides of a portion of atmoſphere, for inſtance, the different kinds of electricity, negative and poſitive, take place, the equilibrium, which the continual pouring forth of light from the ſun tends to keep up, is interrupted. When the two oppoſite ſides are connected by conducting ſubſtances, the fluid ruſhes from the poſitive to the negative part, to reſtore the equilibrium. The inequality or want of equilibrium could hardly exiſt for a moment, were all bodies electrics or non-conductors; and, were they conductors, it would ſcarcely be perceivable; ſo that the preſence of both an electric and non-electric ſeems neceſſary for the production of the phenomena of lightning; and, in art, it is by the rubbing of electric and non-electric ſubſtances each againſt the other, that electricity is generally produced.

Electricity ſeems to bear an active part in all the various departments of creation, and electricians have not failed to conſider it as the chief agent employed in producing all the various phenomena in nature. According to theſe, the electric fluid is the firſt principle of motion in the univerſe, the fixed ſtars are ſo many foci of action, communicating electricity to their ſurrounding planets; it paſſes from one part of creation to another, pervades the moſt diſtant regions of ſpace, produces the attracting, or gravitating, and centripetal forces, and thus regulates all the motions of the ſpheres. Deſcending to our own atmoſphere and earth, it is the cauſe of magnetiſm, and of all the meteors. Tranſparency in bodies is produced by the vibratory motion of this fluid through them; hence the waters of the ocean are ſometimes unuſually clear before a thunder ſtorm, at which time the clouds, when deprived of the electric fluid, loſe their tranſparency, and become dark. Light itſelf is no other than the electric fluid in a vibratory motion; and what we call electricity, is the ſame fluid in a ſtagnant ſtate, or elſe diſpoſed to run from place to place. If, by it's motion, it augment that

of light, heat is produced; if it impede the motion of light, it is cold. Thus, both the fiery and cold meteors are equally under it's influence; the hail and ſnow, as well as the lightning; the winds alſo, as well as the auroræ. Thus it regulates the heat of the different climates; darts through the regions of atmoſphere, and through the ſolid earth, with equal velocity, when it meets with conductors; and thus accelerates, or produces, in an inſtant, the dreadful tempeſt, or more dreadful earthquake.

From the circumſtance of finely powdered reſin aſſuming the figure of ſtars, and beautiful ramifications, on being ſifted on an electrified plate, they have conſidered electricity as the cauſe cryſtallization, and it has been thought that this is an incipient, or imperfect vegetation; that, as it flaſhes into the form of branches in the open air, ſo, in it's paſſing through vegetables, which it is ſuppoſed perpetually to be; penetrating, cheriſhing and unfolding them in their growth, it puſhes or draws out their fibres into the ramifications of root and branch; that it's influence is very great, in the animal economy; and that it is owing to this, that ſeveral tribes of inſects ſhine in the night. There are fiſhes that have the power of giving a ſhock from their own bodies. Some people have been remarkable for an extreme luſtre of their eyes; ſome have been ſo much electrified, naturally, as even to give ſigns of it, when a nice or quick electrometer has been applied to them, and others have manifeſted an extreme ſenſibility of electricity, inſomuch that they would be affected by a flaſh of lightning, though ſo remote that the thunder could not be heard.

Streams, ſparks, and ſhocks are all applied medically to the human body, and have been thought to be very efficacious in removing obſtructions, and in rheumatic, paralytic, and inflammatory caſes; but the moſt certain or unequivocal appearance of advantage, derived to man from the ſtudy of electricity, is the protection from lightning, which he obtains by means of iron (or what is ſtill better, copper) rods raiſed above the higheſt part of his houſe, and extending along the outſide, down into the ground. With ſuch proviſion, he and his family ſit in ſecurity, and hear the thunder rolling over their heads. If the lightning ſtrike upon the houſe, the metallic rods receive it, and it is hereby quietly conducted in a ſtream into the earth.

The moſt uſual acceptation of the word fire, comprehends heat and light. Theſe two principles appear to be very diſtinct, in their own nature, becauſe they are ſcarcely ever proportional to each other, and becauſe each can exiſt without the other: for inſtance, the inſide of an oven, quite dark, may be very hot; and the weather may be very cold, yet the light even increaſed by the ſnow on the ground; though in the moſt intenſe degree of either, the other ſeems always preſent in the ſame proportion.

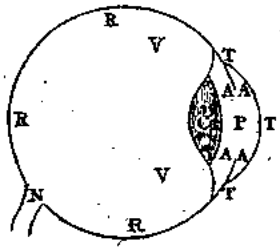
45. *Heat.*] Heat has, heretofore, been defined to be a very briſk agitation, or an inteſtine motion of the particles of the bodies, which we denominate hot: and cold, a ceſſation of that motion: but philoſophers ſeem now agreed in accounting heat a real ſubſtance, which, combining with bodies, gives particles that agitation or inteſtine motion. If we attentively obſerve a body, during it's cooling, a ſlight movement or undulatio

Fig. 41

Fig. 42

Fig. 43

Fig. 44.



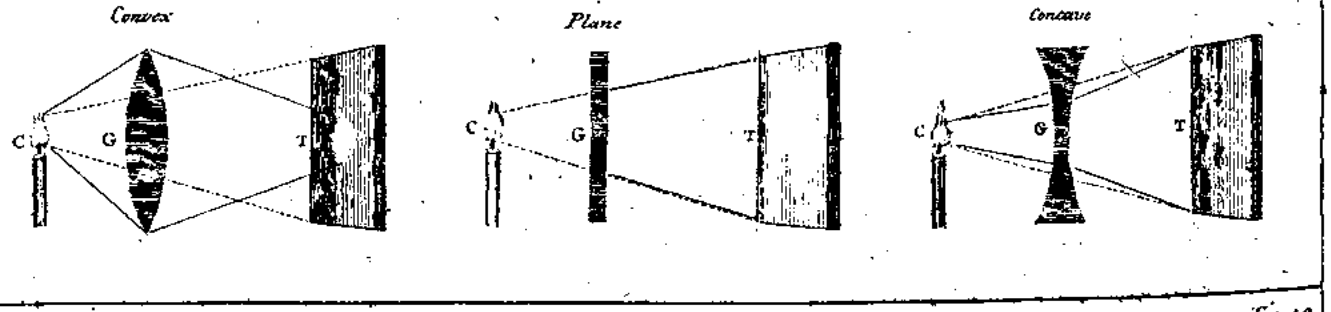


Fig. 48

Fig. 46

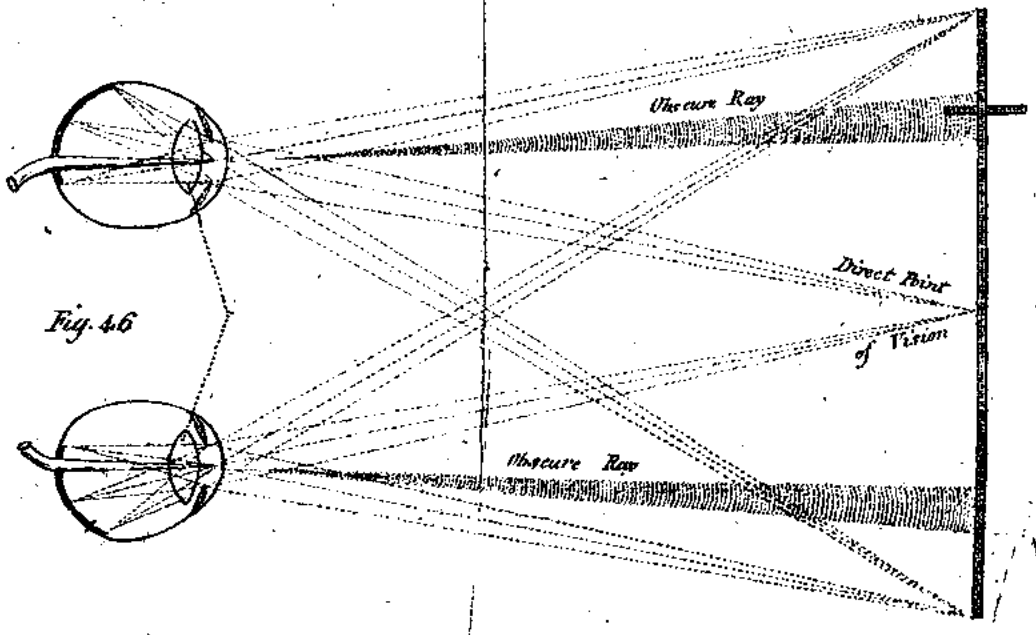


Fig. 47.

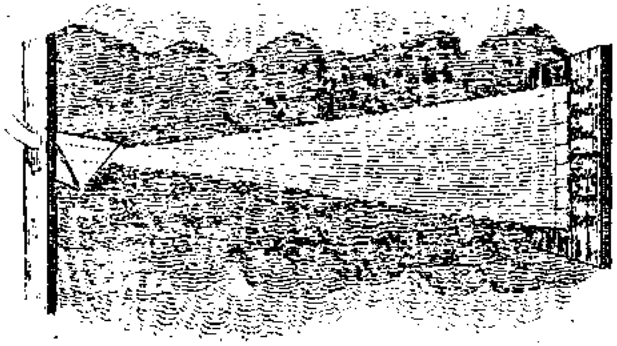
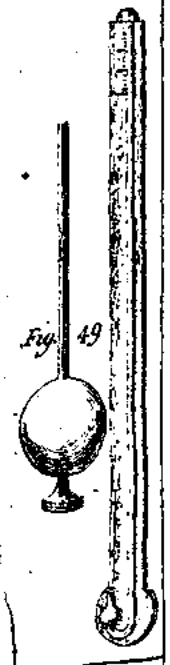


Fig. 49



undulation will be perceived in the ſurrounding air. It is difficult to conceive the cauſe of this phenomenon, without admitting of a peculiar fluid, which paſſes firſt from the body which heats, to that which is heated, combines with the latter, produces theſe vibratory effects, and afterwards eſcapes, to unite with other bodies, according to it's affinities, and the law of equilibrium, to which all bodies tend. When two or more bodies unite, by the affinity of compoſition, their temperature changes: for example, water poured upon the ſulphuric acid, expels the heat, and takes it's place; and, while there is a diſengagement of heat, the volume of the mixture does not increaſe in proportion to the bulk of the two ſubſtances mixed. This ſhews that penetration takes place, which cannot be explained, but by admitting, that the integrant parts of the water take the place of the heat or caloric, in proportion as it is diſſipated. The rubbing of bodies together excites in them heat. In this caſe the caloric is expreſſed or ſqueezed out, in the ſame manner as water from a ſponge: but the whole of heat, which may be produced by friction, is not afforded by the body itſelf; becauſe, in proportion as the interior heat is developed, the external air acts upon the body, calcines or inflames it, and itſelf gives out heat during it's fixation. Fermentation, and in general every operation, which changes the nature of bodies, may diſengage caloric, becauſe the new compound may demand, and receive, a greater or leſs quantity. Hence it is, that chemical operations produce ſometimes cold, and ſometimes heat. Heat is either in a ſtate of liberty, in which caſe, we are ſenſible of it's preſence; or in a ſtate of combination, when it is latent or concealed. In the firſt caſe, it always endeavours to obtain an equilibrium; not that it is diſtributed equally among all bodies, but it is diſperſed among them, according to the degrees of it's affinity. Whence it follows, that the circumambient bodies, receive and retain a quantity more or leſs conſiderable. Heat dilates or expands bodies; and, on this principle the thermometer has been contrived, an inſtrument for meaſuring the degree of heat. fig. 41. The thermometer is generally a tube of glaſs, with a hollow globe at one end, filled with mercury, or ſome other fluid: according to the degree of heat, the fluid in the globe is expanded; and it conſequently riſes in the tube, which is graduated, and thus tells the preciſe degree of the heat.

Glaſs, being a fuſible ſubſtance, can only be uſed to aſcertain degrees of heat, inferior to that which renders itſelf fluid; but there are methods of calculating the higher degrees of heat. Drops of water, caſt upon heated metals, are evaporated, and the hotter the metal is, the more ſlowly will they evaporate; noticing the time, therefore, of the evaporation, gives ſome information of the degree of heat; on the principle, that the pureſt clay ſhrinks in the fire, in proportion to the heat applied to it; the heat of the fire-place is aſcertained, by heating pieces of clay in it, and aſcertaining, when cold, how much they are contracted. The quantity of heat in bodies may be determined by trying what quantity of ice they will diſſolve in cooling. In the ſecond caſe, heat is ſaid to be in true chemical union with bodies, and it's preſence is only manifeſted, as theſe bodies paſs into different ſtates: fluids, paſſing into the ſolid ſtate, emit their latent heat, which immediately becomes

free, or thermometrical heat: thus it is, that water, on freezing, emits heat, and gives a warmth to the atmoſphere; while, on the other hand, ſolids, in paſſing to the fluid, vapourous, or aëriform ſtate, abſorb heat, which thus becomes fixed, neutralized, or latent: thus it is that the air becomes cool, at the time of a thaw; thus, when the body perſpires, it is hereby cooled; the vapour abſorbing the heat, and carrying it off; and, thus, almoſt all fevers end in perſpirations, which, beſide the advantage of expelling the morbific matter, poſſeſs, likewiſe, that of carrying off the heat, and reſtoring the body to it's common temperature. On this principle is alſo founded the proceſs uſed in China, India, Perſia, and Egypt, and in the long journeys of the Caravans, to cool water: it is expoſed to the ſun, or to a warm current of air, and the vapour carrying of the heat, it is hereby cooled.

46. *Light.*] Light has been thought to be a body or fluid ſubtle enough to paſs through the atmoſphere, and all tranſparent bodies, in right lines; how this can poſſibly be, is inexplicable: and indeed one would have thought it an inconceivable idea. As ſhot thrown upon a heap of cannon balls, will find it's way to the bottom, in very crooked lines; ſo poſſibly may it be with the rays of light, in paſſing through tranſparent bodies; and, indeed, the preſent notion ſeems to be, that light vibrates through tranſparent bodies. However, the offering this conjecture, or indeed any other, to explain the ſubtle nature of light, ſeems attended with a thouſand difficulties, which human ſagacity will hardly remove.

Our idea of any kind of body or matter, neceſſarily is, that it occupies ſpace, and precludes all other bodies from that room which it holds itſelf. If we ſuppoſe a quantity of matter, as glaſs, the atmoſphere, &c. made up of particles, with intervening pores, we may ſuppoſe the rays of light ſubtle enough to paſs through the pores of ſuch a body; but, as in filtering of fluids, or ſifting of powders, we ſuppoſe the cavities or holes to be filled up by the body, as it paſſes through in the operation, it ſhould ſeem, we would naturally conceive the rays of light, in paſſing through a tranſparent ſubſtance, to fill up the pores. This, however, ſeems far from being the caſe with the inconceivably ſubtle emanations of light. The current of theſe, as it paſſes along, appears capable of being dilated to any extent, or reduced to the ſmalleſt compaſs; by means of a convex glaſs, the rays of the ſun can be brought together to act with ſuch force, as even to melt metals; and by the intervention of a concave one, it's beams can be ſo diſſipated, as ſcarcely to be felt. Rays of light ſeem alſo to paſs freely through each other in every direction.

If a couple of lighted candles be placed on a table, in a room, and half a dozen people ſit down on the oppoſite ſide of the room, the two flames ſhall be diſtinctly viſible to each of them. Now, if the eyes of the ſpectators, and the flames of the candles be on a level with each other, the rays proceeding from the candles, to impreſs the image of the flames in the eyes of the ſpectators, will obviouſly interſect each other in a variety of angles. It may be ſaid, it is true, that though theſe rays ſomehow paſs through each other, yet the objects are hereby rendered leſs vivid; that if one of the candles be put out, the

other

other will be vaſtly more diſtinct; that thus the ſtars ſhine with a bright luſtre in the night, which we could not diſtinguiſh when the ſun caſts around us the ſplendor of day.

It is remarkable, however, that when the rays of the ſun are made, by an optical inſtrument, to converge to a particular ſpot, with ſuch force as to melt metals, that, however impetuous the torrent of light may be there, through that very ſpot which it would be inſtant death to get into, rays of light will paſs freely from objects beyond it to our eyes.

It ſeems a ſtrange property in light, that it refuſes to paſs through porous bodies; ſuch as white paper and linen cloth; yet if the particles of theſe be brought cloſe together by glazing, they aſſume a degree of clearneſs; and if their pores be filled up, by being wet, oiled, or varniſhed, they become very tranſparent. It is ſuppoſed, by the introduction of this new matter, the pores or cavities of the paper become filled, and the body being thus conſolidated, the light has an opportunity of paſſing from particle to particle, through the whole ſubſtance, without the interruption of the cavities which were before in the way. It may be aſked, why do not the rays of light ſhoot acroſs the pores which lie in the way? We may anſwer by another queſtion: Why does not water immediately drop from the projected beam or ſtone, but rather follow the lower ſide of it, till it takes the wall? In fact, the ſtream of light, in paſſing through a medium, or tranſparent body, may follow the ſurfaces of the particles which compoſe it, through all their minuteneſſes, and, by their being uniformly cloſe to each other, find it's way through, in a more ſteady, eaſy current, than it could have done when the pores or cavities lay in the way. Tranſparency in bodies has been attributed, as already mentioned, to the vibrations of the electric fluid through their ſubſtance.

47. *Bodies, with reſpect to Light and Colour.*] If the eye be placed in the medium through which the rays paſs to it, the medium is not ſeen at all; for inſtance, we do not ſee the air through which the rays come to our eyes: but if a pellucid body, through which the light comes, be at a diſtance from our eye, we ſee that body, as well as the bodies from whence the rays come, that paſs through them to come to our eyes; for inſtance, we do not only ſee bodies through a pair of ſpectacles, by the tranſmitted rays, but the glaſs itſelf, by thoſe rays which are reflected from it's ſurfaces.

The beautiful colours of the rainbow appear viſible, in viewing the ſeveral ſorts of bodies; as in the luminous flames of a furnace, in ſtained glaſs, or in plain tranſparent glaſs of unequal thickneſs; and on the opaque iron of poliſhed ſurfaces, after a certain degree of heat; on ſilks, feathers, &c.

Light ſeems to paſs moſt naturally in right lines, and only deviates from theſe, as it meets with interruptions from bodies that reflect, or that refract it in it's courſe; and by the ſepration of it's rays, preſent us with colours. Bodies, with reſpect to light, are accounted, 1. Luminous, or emit light from themſelves; as the ſun, fixed ſtars, or flames. 2. Tranſparent or pellucid rays of light paſs through theſe, as the air, glaſs, &c. 3. Opaque or dark; theſe reflect the rays of light, as

ſpecular bodies or mirrors; the moon, a wall, &c. But opaque bodies, being made thin and cloſe, become pellucid; the texture of tranſparent ones being diſturbed, they become dark; heat makes them luminous; and to deprive luminous ones of heat, would be, in other words, to extinguiſh their light, or render them opaque. Philoſophers ſay, the rays of light themſelves are not ſeen, but by them, the bodies from which they originally come; or the bodies from which they are reflected, that rays of light are of different colours, and that, in the ſun's light, they are ſo compounded together, as to produce the fine tinct of day: that whiteneſs in bodies, is but a diſpoſition to reflect all colours of light, nearly in the proportion they are mixed in the original rays; hence whited walls make the lighteſt rooms; on the contrary, blackneſs, is only a diſpoſition to abſorb or ſtifle, without reflection, moſt of the rays of every ſort that fall on the bodies; thus holes and fiſſures, which reflect no light, but rather ſwallow it up, impreſs upon us the idea of blackneſs

All the different colours of bodies, or the different tincts of the rainbow, or of the priſmatic ſpectrum, appear to be reducible to three primitive colours, red, yellow, and blue: whiteneſs, being a general compound of theſe three; blackneſs, a privation of colour, and every other tinct, being partial compounds of ſome of theſe. The effects of light are evidently very great, both in art and nature. The chemiſt perceives it's influence in moſt of his operations, and finds it neceſſary to attend to it's action, which modifies his reſults. Plants, deprived of this fluid, become pale, and when in hot houſes, the light comes to them from one part only; the vegetables incline towards the aperture, as if to ſhew the neceſſity of this beneficial fluid. Without the influence of light, vegetables would exhibit but one lifeleſs colour; by the interception of it, they are deprived of their beautiful ſhades; they are indebted to it alſo for their ſmell, taſte, combuſtibility, and maturity. Without light, the whole creation would be lifeleſs, inanimate, and dead.

It ſeems moſt natural, from our experience of things, to account the ſun a globe of fire; but how is it ſupported, in giving out continually it's light and heat? When we ſtand before a mirror, and ſee a reflection of ourſelves, or in a ſituation where echo returns the words we utter, we find that ſounds, and reflections of viſible objects, can paſs both ways at once, or meet without mixing; and may we not ſuppoſe that the light emitted from the ſun, returns in the ſame manner, when it has performed it's office, to the place whence it came.

There are, however, who ſuppoſe that the ſun does not emit the matter of fire, but that the principle, which produces the effects of heat and warmth, was placed in and about the earth at the time of it's firſt creation, that it has a conſtant tendency to recede from the earth, but that it is acted upon, and beat back again by the influence of the ſun; that it is owing to this that it is warmer near the ſurface of the earth, than it is in the upper regions of the atmoſphere, where it is ſometimes ſo cold, even in ſummer, that the rain freezes in it's deſcent, and falls in the form of hail; and that the tops of ſome of the higheſt mountains are perpetually covered with ſnow, even under the line.

48. *Reflection of Light.*] That light is reflected from different bodies, is obvious. Coloured cloaths throw their hues on the walls they approach; and the mirror reflects the image of the object from it's ſurface, in an angle equal to that in which it fell. Thus, fig. 2. ſtanding directly before a plane or flat mirror, we are preſented with a faithful picture of ourſelves; ſtanding obliquely, it is reflected obliquely, and may be received by another, in another part of the room; whoſe image we ſhall likewiſe ſee at the ſame time. Thus, holding up a concave mirror before us, the hollow on every ſide takes up the object, and throws on the eye a face which may divert or affright us with it's monſtrous appearance. Turn the mirror to the ſun's beams, the rays are by it converged to a particular focus or ſpot, where they act upon bodies with the fury of a furnace. On the other hand, hold up a convex mirror, the reflection of the face is a miniature picture. Turn it to the ſun, the rays on no ſide will remit, to the obſerver, more than one mere ſpot of light, or very minute repreſentation of the luminary, which even the eye may receive without danger of inconvenience.

49. *Refraction of Light.*] Thus obvious appear the laws of reflection. Thoſe of refraction ſeem not to be ſo generally underſtood or regarded; however, there is hardly a child that has dabbled in the water, but what may have obſerved, with ſurprize, on plunging it's hands or little play-things in the fluid, they have ſeemed to be broken or very much bent. This is produced by what philoſophers call refraction. They obſerve that light, in paſſing out of one medium into another, of different denſity, is broken in it's courſe, or deviates from the line in which it firſt ſet out. Thus, if the candle be lighted, fig. 43, the part A, in the baſin, will be enlightened by it's rays; but the reſt will neceſſarily be immerſed in ſhade. If the baſin be filled with water, without moving either candle or baſin, the bottom of the veſſel illuminated; for the rays of the candle will then be refracted on their ſtriking on the ſurface at S, and enter the water in the angle at C S B, inſtead of purſuing the ſtraight direction they ſet out in. Thus the atmoſphere, being a tranſparent body, as the rays of the ſun fall obliquely on it in the morning, they are tranſmitted to us before it has actually riſen; and, in like manner, in the evening, they ſhine on us, after it has ſet below the horizon. If, in our experiment, the candle be removed, and the eye fixed at O, the part A, in the baſin, when empty, will be viſible; but the bottom will be hid by the edge next the eye. A ſixpence, a halfpenny, or any ſmall body, lying on the bottom, will be alſo inviſible. If water be poured in, without altering the eye, or the veſſel, the bottom and the piece of money will both become viſible; they will ſeem to the eye to riſe in the fluid; for the rays, reflected from objects in the water, will be refracted on their ſtriking on the ſurface, and enter the air in a direction different from that which they purſued in their courſe through the denſer medium of water. This may account for the apparent diſtortion of bodies, when dipt in a fluid; and from the principles of refraction and reflection, ſimple or combined, the variety of optical improvements have been derived. Thus, by adopting glaſs inſtead of

water, and varying it's forms, a variety of curious effects are produced. In fig. 44. let C be a flame, G a glaſs, or lens, with it's edge towards us; T a tablet or board, to receive the rays. The rays in *conc.* will be refracted in paſſing through the glaſs, and brought near together, or made to converge; in *plane* they will be refracted, and again reſume their diverging direction. In *conv.* they will be refracted, and their divergement increaſed; and accordingly the tablets will be differently illuminated. In *conv.* the light will be collected to a ſmall ſpot, appearing very bright. In *plane* it is ſpread over the ſurface of the tablet; and in *conc.* we may ſee a ſmall portion of the rays faintly illumine the whole ſurface, while the reſt diverge, or are refracted beyond the extremities of the tablet. Now, if we remove the candle, and fix the eye in the place which the flame occupied, thoſe parts of the tablet, which were before enlightened by the rays of the candle, will be viſible to the eye; and the ſmall ſpot on the tablet in *conv.* which before was illuminated, will, by it's refraction, in paſſing to the eye, appear as much larger through it's convex glaſs, than the whole tablet in *conc.* does on the ſame principles through it's concave one, as it received a greater ſhare of the rays from the candle in the former experiment. In other words, it will fall in a greater angle on the eye, as may be ſeen by the lines which ſhew the courſe it takes in paſſing to the eye, as well as that of the rays in the experiment with the candle. The dotted lines repreſent the courſe that the rays would have taken, if no lens had intervened.

50. *Formation of the Eye, it's Illuſions, &c.*] The eye is found to be an optical inſtrument, of exquiſite ſtructure, furniſhed with a variety of refracting mediums, comprehended under different ſurfaces; the orbit or cavity, in which it is contained, is furniſhed with a looſe fat, in which it reſts or moves with great eaſe; and on the fore part, the white of the eye is covered with a fine membrane, called conjunctina, which being reflected or doubled back from the ball or eye, alſo lines the eye-lids, thereby effectually preventing any extraneous body from getting in behind the eye in it's cavity, as well as leſſening the friction between the eye and it's lids. The eye-laſhes ſeem obviouſly deſigned for fanning off duſt: and that which, eſcaping theſe, falls on the eye, is waſhed off by the water which, continually flows from the lachrymal gland, in the upper part of the orbit; and which is nicely diffuſed over the ſmooth glaſſy ſurface of this optical inſtrument, by the cloſing of the lids, to keep it tranſparent, even when we are not conſcious of doing it.

Fig. 45. The membrane T, which covers the apple of the eye, called, from it's tranſparency, the tunica cornea, or horny coat, further extended, is opaque or ſclerotic, forms the white, and ſerves as a caſe for the internal humours. Immediately under the cornea, lies the iris, which in different people is of different colours: it has a hole P, in the centre, for admitting of light, or objects; this is called the pupil, or black of the eye. Where this is wanting, the ſurgeon's knife ſometimes lays it open. Beneath this hole floats the cryſtalline humour C, of a roundiſh form, vulgarly called the ſight, with the vitreous humour V behind it, and the aqueous one A before, to

defend

defend it from being bruiſed in rubbing of the eye, &c. The optic nerve N, from the brain, enters the back part of the eye, where, being expanded on the inſide, it forms the retina R, as a fine web, to receive the picture or impreſſion of the object; and this impreſſion is what gives to us the ſenſe of viſion. Yet, eſſentially neceſſary as the cryſtal appears to be to viſion, when a cataract has clouded the ſurface, the patient is couched; or, in other words, the eye is laid open; the cryſtalline humour being then taken out, the aqueous one fills up it's place; and anſwering as a lens, gives ſight to the blind; but this not refracting ſo ſtrongly as the cryſtal, a convex lens is uſed to ſupply the defect.

The brow is not only a guard to the eye, but it ſerves alſo as a roof, to throw off the rain, and other light falling bodies. The advantage of our having two eyes is not ſimply a proviſion againſt accidents; they enable us to aſcertain the diſtance of near objects with great preciſion; the object becoming as a focus of viſion, upon which the eyes bear, varying their directions according to the diſtance. Hence, if we ſhut one eye, and the bow of a key be held up before us tranſverſely, and within our reach, we ſhall find it difficult to put our finger through it at once, which we can do with certainty, when both eyes bear on it, at the ſame time: and hence, it has been found, that a fine horſe, which has leaped over gates, with great certainty, has, on the loſs of one eye, ſo far loſt it's addreſs in this way, ſo miſtaken the diſtance, that it has ſometimes come down upon the gate, and at other times fallen ſhort of it.

Clumſy and confined are the inſtruments of art, if compared with this delicate and wonderful organ. They, it is true, help out the deficiency of ſight. The microſcope enables man to look far down on the minute works of the creation; and the teleſcope lifts up his view to the wonders of the firmament; but theſe are fixed to certain diſtances; one ſuits to meaſure the magnitude of a planet; another to examine the formation of an inſect; but the eye wonderfully adapts itſelf to every diſtance within it's own extenſive ſphere. Without diſtraction, it alike ſurveys the lettered page; lays hold on the extended landſcape; and views the ſtars. In what manner it accommodates itſelf to theſe very different diſtances, ſeems not to be thoroughly underſtood by anatomiſts; it ſeems, however, to be the idea, that the eye becomes more flat in ſtraining after remote objects, and more convex in prying into minutes ones. In old age, when the eyes loſe their fulneſs, become flat, or incapable of adapting themſelves to look at minute objects, they find relief in the uſe of convex ſpectacles; while near-ſighted people, on the contrary, having their eyes naturally fitted for viewing minute objects, near hand, have their viſion extended to a diſtance by the help of concave glaſſes.

Every body knows, that too much light diſturbs the eye; and that too little does not anſwer the purpoſes of viſion. The efforts it makes to bear with the exceſs, and to accommodate itſelf to the deficiency, are not ſo generally noticed or known. In looking at a luminous body, as the flame of a candle, the pupil of the eye or hole in the iris, becomes very ſmall, to prevent too great an influx of the rays: on looking

ing at objects but faintly illuminated; and especially in getting into darksome places, the pupil is dilated, that it may the more copiously receive what little light the faint object or the gloomy situation may afford. If we look up at the sky, and then suddenly cast our eyes down on the ground; or if we look at the flame of a candle, and then beneath the table on which it stands, or on any dark object, a bystander may distinctly observe the visible contraction and dilatation of the pupil. Thus admirably does it adapt itself to the duties imposed on it; but this is not all that is wonderful in the organs of sight; to say nothing of the muscular fibres within the nice cord-like tendons behind, passed as through their pulleys, and helping to roll the eye-balls in their sockets; we may yet dwell with wonder on their internal structure; remark their seeming imperfections and illusions; and observe with surprize, how we learn by exprience to detect their deceptions, and derive just information from their errors or deviations. There is necessarily a hole in that part of the retina, where the optic nerve, entering the eye, begins it's expansion, fig. 46. This spot is incapable of receiving the impression of vision, as may be discovered by an easy experiment: if we close the left eye, and stretching out our arms, hold up our two thumbs before the right eye, still kept open, the thumbs being close together, they will both be visible: if we keep the eye stedfastly fixed on the left thumb, and at the same time carry the other one outwards, the right thumb, shall at a few inches distance from the left one, become invisible. Carry it farther distant, it shall again appear in view to the eye, still looking stedfastly on the left thumb, in it's fixed situation. The experiment may be made with greater ease and nicety, by sticking up small pieces of white paper against a dark-coloured door, or dark pieces against a white wall; or by lighted candles, properly fixed, at greater distances than we can hold our thumbs; and fixing the eye proportionably farther off, this defect of sight, in either eye, is made up by the help of the other; for the object which falls on the optic nerve of one eye, necessarily, from their construction, falls on a distinct part of the retina in the other. But our having two eyes, though it gives us more extensive vision, it seems, naturally presents to us illusions, which experience only rectifies. With whatever unity and precision single objects may appear to our direct view, this it seems is not their natural appearance. Naturally they appear double to us; and it is only the touch that has corrected the deception; and in spite of appearances told us the truth. Those parts of the retina immediately opposite the pupils, may be called the parts of direct vision; upon these we receive those objects our eyes most stedfastly behold; and however double the objects might appear in the beginning, the impressions they make there, gives us the simple idea of singleness. It is different with the other correspondent parts of the retina; objects falling there we but faintly observe; and their impressions, though they appear to us double, are scarcely observed. An easy experiment, however, will shew, that this faint illusion actually obtains.

If we fix upon an object on the opposite side of the room, suppose a candle, or a hat, and, between the object and the eyes, hold up a thumb;

thumb; if we bring our eyes to bear directly on the thumb, the diſtant object ſhall faintly appear double; if we look directly on the diſtant object, the thumb ſhall ſeem as two.

Fig. 46. The images of objects are painted on the retina of the eye in an inverted poſition; hence ſome have imagined, that children ſee objects upſide down; and that this deception is corrected by the feeling, as they grow up. Others ſeem to have more conſiſtently concluded, that we always ſee objects reverſed; that in fact the ſky and the ground are turned upſide down to us, if the expreſſion may be allowed; and that our other ſenſes are accommodated to the illuſion; that up or down, right or left, &c. are merely relative; and that all our ſenſations in the matter, being relatively true, the reverſion is without inconvenience, and the deception, in fact, amounts to nothing.

In oppoſition to this ſtrange and ſeemingly abſurd doctrine of the philoſophers, we might, with the evidence of our own ſenſes, and the common conſent of mankind, venture to diſbelieve their report, without fearing a general imputation of ignorance; and, in ſupport of the common opinion, thus we might argue: If we imagine a perſon at ſome diſtance behind a wall, looking through a hole in it, at a tree growing before it, we may readily conceive, how it would be neceſſary for him to ſtoop, in order to ſee the top of the tree; and to raiſe up his head, in order to ſee the bottom of it. Were he outſide, and ſo near the tree as to need a ladder, to diſcover the top, he muſt aſcend to ſee it, and come down again to obſerve the trunk; yet though he ſtoops in one caſe, and aſcends in another, to ſee the top or bottom of the tree, he has the ſame conception of it's poſition in both caſes.

If a traveller paſs the hole towards his right-hand, while behind the wall, he muſt move to the left, if he wiſhes to keep him in view; yet does he juſtly conceive, that the traveller paſſes towards the right, though he had to move the contrary way to make the obſervation. Thus, as it is neceſſary for objects to be inverted in paſſing to the retina, the very reverſion may perhaps give us the juſt information of their true poſition.

51. *Priſmatic Rays.*] That colours are originally in the rays of light, is ſhewn by a variety of experiments. If light be received through a hole in a window ſhutter, into a darkened room, and to the hole there be applied a glaſs priſm, as in fig, 47, the light ſhall no longer follow the direction in which it entered the room; but be refracted in it's courſe, by paſſing through the priſm; and the ſeveral coloured rays of light which, compounded together, produce the fine white tinct of day-light, ſhall be ſeparated according to their different degrees of refrangibility, the red rays making the ſtrongeſt effort to paſs in a right line, ſhall be leaſt refracted, in paſſing through the priſm; and the violet-coloured ones, being moſt eaſily refracted, ſhall deviate the fartheſt from the line in which they firſt entered the room. If a tablet, or ſheet of paper, receive the light, after it has paſſed through the priſm, the impreſſion of light, or ſpectrum, on the tablet, ſhall be of an oblong figure, variegated with colours, in the following order: the extremity of the ſpectrum, which receives the leaſt refracted

refracted rays, ſhall appear intenſely red, then orange, then yellow, then green, then blue, then indigo tincts ſhall ſucceed; and, laſtly, the moſt refrangible violet ſhall terminate the other end of the ſpectrum. If the tablet be perforated, ſo as to let ſome of theſe coloured rays paſs through it, an object held behind the tablet, ſhall not be of the colour it appeared in the finely compounded light of day; but of that colour of the rays which are made to fall on it. In this way, the violet may be made to appear red; and the orange-coloured marygold to aſſume the tinct of indigo. It ſeems, however, not to alter it's colour without a ſtruggle, wherein the rays loſe ſome of their force. The colour thus impoſed upon the object, ſhall appear leſs brilliant than it would on white paper; but in it's own coloured rays, the object ſhall appear of a more vivid hue, than it does in day-light; the ſpectrum, however, produced by the priſm, is not coloured with ſeven different ſtripes, diſtant from each other; the gradations between the ſeveral colours are ſo fine, or the tincts are ſo nicely blended with each other, there is no ſuch thing as a diſtinct diviſion between any of them. The rainbow, produced by the ſun-beams ſtriking on the falling drops of rain, being there refracted and reflected to the eye, the rainbow is on the ſame principles of the ſame variegated hue with the ſpectrum. In like manner, the ſame colours are produced, by blowing globes with ſoap and water; and it is remarkable, that when one of theſe bubbles has been blown in the baſin, and let to remain till the water ſubſiding from the top, it at laſt becomes ſo thin as to burſt, there ſucceſſively appear different colours at the top, which, ſpreading on all ſides, fall to the bottom; the leaſt refrangible colour, red, firſt makes it's appearance; after this a blue emerges; red appears again; afterwards blue. Thus, at different thickneſſes, in it's throwing off the ſeveral orders of colours, the leaſt refrangible ſtill continue to be reflected firſt; then thoſe that are leſs ſo, for ſeveral times; till it gives a greater variety of colours, as yellows, greens, purples, &c. at laſt becoming ſo thin as ſcarcely to reflect any; it looks black, and the bubble burſts. From theſe obſervations, ſome curious experiments have been made, and ſome ingenious concluſions drawn; that colour in bodies muſt depend upon the ſize and denſity of their particles. An analogy has alſo been imagined or diſcovered between colours and muſical notes; or between the refractions of light, and the vibrations of ſound.

In conſidering the properties of magnetiſm and electricity, of heat and of light, we have ſeen how evaſive theſe fluids (or perhaps, rather, theſe modifications of the one fluid of fire) are of our reſearches, and, conſequently, how hypothetical the theories formed on theſe ſubjects muſt ever be. In contemplating the groſſer fluid of air, we may expect to meet with more certainty, yet here we ſhall diſcover wonders perfectly inexplicable.

52. *Atmoſphere.*] The air, which on all ſides ſurrounds our habitable world, is found to be an elaſtic fluid; it's denſity or gravity therefore will be very different at different heights; as in fleeces of wool piled one above another, the loweſt will be much compreſſed, while the higheſt remains in it's full ſtate of expanſion: through it's extreme

extreme elaſticity, it is liable to be put in motion from numberleſs cauſes.

Different degrees of heat and cold contract or dilate this fluctuating body, and produce the variety of currents, from the gentle gale to the dreadful tempeſt and rapid whirlwind.

By the ſtrokes of hammers, and the vibrations of ſtrings in this element; by it's being thrown out of certain cavities, and modified in it's paſſage; as in the voice and wind inſtruments of muſic, it receives an undulatory motion, and fills the cavities of the ears with it's vibrations, which echo to the mind the bewitching melody of muſical ſound, or fill it with pain, by the unkindly jarring of diſcordant vibrations.

53. *Muſic, and it's Effects.*] The child may, with an undeſcribable and ſecretly pleaſing ſatisfaction, practiſe it's little fingers in graſping and turning, in a thouſand ways, it's ſmooth and glaſſy coral; old age may find a fainter, but ſimilar amuſement, in handling at leiſure the time-worn, ſmooth head of his walking ſtaff: the beau and the ſoldier, while ſuch there are, may play for a while with their trinkets and trappings; ſome may with a degree of pleaſure hang on a perfume, and others delight in the more ſubſtantial enjoyment of a feaſt; the variety of beauty, the contour and relievo, or the form and colouring, may captivate the eye, and afford a delight; the gloomy ſcene may impreſs a degree of melancholy, and the lively proſpect animate our ſpirits; but of all the powers in the natural world, the airy magic of muſic ſeems moſt to triumph over the paſſions of mankind. Naturaliſts have conſidered a diſſimilar formation in the organs of hearing, as the cauſe of what is termed an unmuſical ear; they have thought that a perſon of ſuch condition does not hear alike with each ear; and perhaps there is no one living, whoſe organs of hearing are perfectly formed, can declare himſelf entirely free from the dominion, or unſuſceptible of the powers of muſic; in fact, all nations ſeem naturally pleaſed with it: it's charms have been romantically deſcribed as capable of ſoftening rocks, and bending the knotty oak; and fabulous hiſtory has not failed to tame wild beaſts, build up cities, and a thouſand extravagancies, by the ſounds of the lyre.

However, without giving weight to theſe fictions, and without going back to the days of the ancients, the effects of modern muſic upon ſome may fill us with wonder; whether we obſerve it thrilling them into ſoftneſs and effeminacy, or bracing up their nerves, and rouſing them to action; working them up to revel in the noiſe, or enter with ardor on feats of danger; and, what might make humanity ſhudder, ſteeling their hearts, to ruſh without remorſe on the bloody carnage of their fellows, amid the tumultuous horrors of war.

If ſuch be the effects of muſic upon the paſſions, how dangerous then muſt it be to tamper with ſo facinating or alluring a thing! and how eaſily may we be made to imagine that we feel all the kindly train of gentle emotions or of noble ſentiments, and even devotion, when in fact our weakneſſes are only impoſed on by the melody of ſounds, and when the intervention of diſagreeable ſounds would prove our happineſs and our affections to be unſubſtantial and imaginary; nay, even awaken in us the moſt turbulent and tormenting paſſions.

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Not man only, ſeems ſuſceptible of the powers of muſic; birds ſerenade and ſolace their mates with their melodious warblings; the dogs animate each other in the chace with their mutual cries; and even inanimate bodies, fitted for producing ſound, as bells, the ſtrings of inſtruments, &c. when a note is ſtruck according with their own, they join the chorus and alſo ſound. Thoſe animals, that have ſubmitted to the reins, are encouraged under toils by the voice of the driver; and animated by ſhouts, on the precipices of lofty mountains, with riders on their backs, perform feats of deſperate addreſs and wonderful agility; as, on the Alps and the Andes, the hardy and artful mules, ſliding down frightful ſteeps with an inſinuating and ſteady motion, when fear in the rider, and ill-timed efforts to ſave himſelf, would throw the artful creature off it's bias, and they would both be overturned, and daſhed to pieces in the fall.

Indeed noiſe alone ſeems naturally to have a great effect on the ſpirits of animals, and eſpecially of man. Without much reaſoning on cauſes and effects, the rollings of thunder fill him with awe; the winds ſweeping over the hills, or whiſtling through the crannies, bring on him a pleaſing delirium of melancholy, while the diſtant ſounds, which aſſociated with them the idea of company, naturally chear him: pleaſing would it be, if they never gave him reaſon to be afraid of an enemy; but how have I ſeen the countenance fall, in people ſafe upon land, on their hearing the ſound of diſtant guns at ſea, when not a veſſel appeared in ſight.

54. *Melody, Harmony, Diſcord.*] According to the language of muſicians, melody may be defined a pleaſant and agreeable ſucceſſion of ſounds: Harmony, the ſound of different notes at the ſame time, which accord with each other. The former appears to have an origin immediately in nature; it prevails in ſome degree in all languages, and in a very high degree in the Chineſe, where words vary in their meaning according to the tone or note wherein they are ſounded. Melody formed the muſic of the ancients, and, as this was moſt ſimple or natural, its effects were moſt wonderful; to this the moderns have added harmonics; theſe have been accounted of Gothic deſcent. It is remarkable however they were found in the muſic of thoſe ſequeſtered people, the natives of the South Sea iſlands. Diſcord is the ſounding together, or indeed in ſucceſſion, notes that jar with each other.

How it happens that ſome ſounds, jarring with each other, diſturb with their diſcord, while others naturally pleaſe with their melody, ſeems beyond our conception; perhaps, however, if we could but detect the ſimilitude, as it waves along, we might obſerve, in the varied undulations of the water, a clumſy repreſentation of the vibrations that, in the rarer medium of air, impreſs upon us theſe different ſenſations.

Thoſe who have much noticed the fluctuations of the ſea, muſt often have obſerved it agitated in various ways: ſometimes ſwells of amazing extent ariſe, and moving along, heave up its ſmooth and glaſſy ſurface in large but eaſy undulations; mounting up upon theſe, or gliding down their ſides, waves of a leſs ſize at the ſame time paſs along, and with unceaſing motion diverſify the face of the waters; at

firſt

firſt view, we might imagine all was in tumult, all in diſorder, and the ſea ready to ſwallow up the bark and the people; but, on obſerving it ſtill further, the waves are found to glide ſoftly into each other, the veſſel riſes with an eaſy motion over their tops, and in a ſea of this kind, even a ſmall boat will live: this appears to be a ſort of harmony in the waves, if compared with what ſailors call croſs going ſea; at ſuch a time the billows ſeem in conflict with each other, breaking themſelves to pieces, and tumbling one another in tumultuous diſorder; ſudden gulphs and abrupt precipices of water, with impending tops of foam, affright the mariner, and hideouſly deform the boſom of the deep, whoſe ruffled motion ſeems now altogether jarring and diſcordant.

There are few that have not ſometimes amuſed themſelves by throwing ſtones into the water, and obſerved that, when big ſtones are thrown in, it's ſurface is agitated by large circular ſwells; and when leſs ones are caſt in, ſmaller waves ſpread alſo in circles. It ſeems not very difficult to conceive, if ſtones of different ſizes are thrown in at once, their waves might either ſo fall out, as kindly mingling together, they might produce an agreeable motion, or diſcordantly claſhing againſt one another, ſoon deſtroy each other's undulations. In theſe contrary effects, obſervable in the water, there is, perhaps, ſomething very ſimilar to thoſe inviſible ones produced in the atmoſphere by the different vibrations of harmonious and diſcordant ſounds; however, in the recoiling of waves from the edge of the water, there appears a pretty repreſentation of echo.

55. *Circulation of Notes.*] We have already ſeen how a ſort of circulation takes place in the changing ſoap-bubble, as it becomes of different thickneſſes; in varying of ſound, there ſeems alſo to be a kind of circulation of notes; and, perhaps, if our ſenſes were ſufficiently delicate or fine, to detect the analogy, we might diſcover the circulation of ſounds, and of colours, to depend upon principles in creation, akin to each other.

Muſical inſtruments are ſuperfluities, and often miniſter to diſſipation; adopting theſe, however, inſtead of the voice, we may by them inveſtigate ſomething of the nature of ſound, and if the paſſions be not hereby hurt, perhaps the mind may be for a while rationally amuſed in contemplating this inexplicable part of creation, the circulation of ſounds.

If a muſical ſtring be ſtruck, giving a certain ſound, by rendering the cord or wire ſhorter or tighter, the ſound becomes ſhriller or higher, till at length it ſeems, ſomehow or other, to give the ſame note it ſounded at firſt, though it has continued ſtill to aſcend. If a flute be blown, or filled gently with all the fingers down, it gives a certain ſound or note; on lifting up theſe ſucceſſively to the top, the notes aſcend; if the fingers are cloſed down again upon the holes, and diſpoſed of in the ſame manner as before, with the blaſt increaſed, the ſounds ſtill continue to riſe; a third time they may be cloſed upon the inſtrument, and for a while lifted as before, the notes ſtill growing higher by a forcible blaſt; yet when the fingers are alike diſpoſed, whether the flute is filled with a gentle, firm, or forcible blaſt, the

notes

notes ſomehow or other appear to be the ſame; it is true they are of very different heights, and naturaliſts have called them octaves to each other, from their having divided the intermediate variable ſounds into ſeven diſtinct diviſions. As we have already ſeen the variegated priſmatic hue on the rainbow divided into ſeven diſtinct colours, one might think their diviſions altogether arbitrary and artificial, but they appear to be natural; and it ſeems remarkable, that the nations who have given themſelves to the ſtudy of muſic, have diſcovered in it theſe diſtinct diviſions of ſound: the principles in nature, upon which theſe diſtinctions depend, ſeem as inexplicable in philoſophy, as the laws which give to the ſeveral rays of light their different colours.

Theſe diviſions, or notes, ſeem moſtly to accord with each other, or to produce a ſort of harmony, when ſounded together; one or two, however, are diſcordant with the reſt, and, ſounded with them, produce a horrid jarring; theſe jarring tones are notwithſtanding made uſe of in muſic, and ſerve to give a lively variety to that bewitching art. As in nature, or on the canvaſs, the abrupt precipice, the broken cliff, the glaring light, or ſudden ſhadow, diverſify the landſcape, and carry the eye with increaſed pleaſure to the ſofter tints, and more gently flowing outlines; ſo the harſher ſounds in muſic ſeem, for a moment, to arreſt the liſtening ear, and keep it in ſuſpenſe, that it may be the more effectually ſurpriſed and delighted with ſucceeding ſounds of melody. Theſe effects may be eaſily obſerved, and were it right to give a looſe to the paſſions, and revel in the moſt joyous pleaſures, the intoxicating effects might as eaſily be felt in their full force; we may gueſs at the cauſes of theſe ſurpriſing effects; but like the other parts of creation, they ſeem too fine for our groſs ſenſes ever fully to comprehend.

56. *Sound, Improvements.*] It is well underſtood that ſound is produced by putting the air into an undulatory motion, and vibrating bodies, as bells, &c. when ſtruck in the exhauſted receiver of an air-pump, or in vacuo, are found not to ſound. Were the particles of the atmoſphere as elaſtic as thoſe of light, it ſhould ſeem, that ſound would move with equal, or greater velocity than light itſelf; but a ſlight obſervation informs us the reverſe is the caſe: if we obſerve at a diſtance any one ſtriking with a hammer, or hatchet, we may ſee the tool aſcend, after the blow, before we hear the ſound from the ſtroke; and in the firing of guns afar off, and the diſcharge of the electric fire in the clouds, we ſee the flaſh long before we hear the report or the thunder.

But though ſound does not move with the velocity of light, nor paſs like it through tranſparent ſolid bodies, it's impulſe is ſometimes felt where light does not ſenſibly come; for inſtance, we may hear the company in the next room converſe, though their fire and their candles be ſhut out from our view: and echo, from an oppoſite building or hill, while it ſurpriſes and diverts, ſhews that ſound, like light, is capable of being reflected, and in the reflection it is found in ſome meaſure under ſimilar laws; the ſtudy of phonics, while it has furniſhed the world with ſome intoxicating luxuries, it has alſo produced ſome uſeful knowledge, and inſtruments of real ſervice to mankind. The

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dull ear derives aid from the ſimple contrivance of a hearing trumpet; and by help of the ſpeaking trumpet the mariners are enabled to cheer and diverſify their tedious voyage, in hailing each other when they meet on the ocean, when without ſuch an inſtrument, the noiſe of the waters, or the diſtance of the veſſels, would have neceſſarily ſhut them out from the pleaſure of the ſalute, and the benefits they derive from the mutual information.

It is ſaid, that Dionyſius, the tyrant of Sicily, had a priſon built with a ſecret aperture, and a paſſage leading from it in the ſhape of an ear; that here he uſed to lurk and liſten to the moſt private whiſpers of the poor unhappy and unſuſpecting captives.

The cathedral, in the city of London, furniſhes a proof that the vibrations of whiſpers, however faint, when diſperſed abroad in the air, may be ſo collected together as to ſurpriſe and diſturb with the noiſe. In the dome of that ſtately building there is a circular gallery that ſweeps round the concave; ſtrangers, on entering this part of the building, are ſtruck with ſurprize at the grandeur of the ſcene which art has produced. When the firſt moments of aſtoniſhment are over, the whiſperer directs the curious to walk round the gallery, and take their ſeats oppoſite to him, he turns about, and whiſpers to the wall, his whiſpers on each ſide ſweep round the dome, claſh together amidſt the liſtening ſtrangers, with a noiſe, which though expected, hardly fails to ſurpriſe, or ſuffers the whiſpering gallery to ſink in it's fame.

Perhaps the time may come, when the places deſigned for public audience will be nicely laid out on philoſophical principles, ſo that a feeble voice may be diſtinctly heard by thouſands of people, and mankind may wonder, as they have often done, that their predeceſſors ſo long neglected the obvious improvement.

Though the air is a body which eſcapes our ſight, we every moment have proof of its exiſtence, without the help of ſound; the aërial fluid, ſurrounding on all ſides our habitable world, inſinuates itſelf into the pores, and mixes with the ſubſtances of the variety of bodies; without this great neceſſary to life, the ſeveral tribes of living creatures cannot ſubſiſt, even the mute tenants of the water, and the minuteſt inſects cannot live without it, and vegetables, deprived of this vivifying element, ceaſe to grow, become flaccid, and die; without this, fires ſoon go out, and even gunpowder will not explode in vacuo, or in a receiver exhauſted of air.

57. *Weight of the Atmoſphere.*] That the atmoſphere has body, is obvious from the force of the wind; and that it alſo gravitates, or has weight, clearly appears from light bodies, as ſmoke, clouds, &c. floating in it; a glaſs globe, when exhauſted of air, weighs lighter than before; in fact, the atmoſphere is found to preſs upon the ſurface of our globe, with a weight equal to that of a ſea of quickſilver, ſurrounding the world 29 inches deep, or one of water 30 feet deep. Philoſophers ſeem to have derived this information, from the obſervations they have made upon pumps; if a pump be inſerted in a ciſtern of water for pumping it off, the piſton or box on being drawn up, would make a vacuum in the hollow of the pump; but the atmoſphere preſſing on

the ſurface of the fluid, it is thus forced up by the weight of the air, to fill up the vacuum; but when the water, beneath the box, is raiſed in the pump thirty feet high, the column of water being equal in weight to that of the atmoſphere preſſing on the ſurface of the fluid, they neceſſarily then balance each other, and the water riſes no higher: In like manner, mercury may be raiſed twenty-nine inches, and then it, on the ſame principles, ceaſes to aſcend; but the force neceſſary to raiſe the fluids to their utmoſt heights, in tubes of a given diameter, ſuppoſe an inch, is eaſily aſcertained, and that force, or a weight of air equivalent thereto, every inch of our bodies muſt neceſſarily ſuſtain: hence the load of air, which preſſes on the ſurface of an ordinary man's body, is equal to forty thouſand pounds weight: thus, were it not for the air within us, we ſhould be cruſhed to pieces, by this load of air; and, were it not for this external preſſure, we ſhould burſt to atoms, in the internal air taking vent from our bodies. The air is not always of the ſame denſity, and it's changes, in this reſpect, ſenſibly affect our bodies; they are braced ſtrong and vigorous when the air preſſes forcibly upon them; and when the air is light they are languid, relaxed and feeble. To determine the weight of the atmoſphere, the barometer has been contrived, fig. 48. This inſtrument is ſimply a glaſs tube, about thirty inches in height, cloſed at the upper end, and filled with mercury, with it's open and lower end inſerted into a cup of mercury, or it's lower end may be enlarged to a ball or bottle, and turned up in place of the cup; now, when the air is ſo heavy as to keep up the clouds and give us fair weather, it preſſes on the quickſilver in the bottle or cup, and forces it up to a good height in the tube; and when the rain muſt deſcend, through the atmoſphere's becoming too light, the preſſure on the quickſilver in the cup decreaſes, and the barometer, or the quickſilver in the tube falls, and thus predicts the changes in the weather. This inſtrument is alſo uſed in meaſuring the heights of mountains; as the air becomes lighter the higher we aſcend in it, ſo the higher the barometer is taken up, the more the quickſilver will neceſſarily fall; and where the acclivity may be ſo rude and irregular as to forbid the application of a mathematical apparatus, this inſtrument, by the fall, will tell pretty exactly the height aſcended: it ſinks about the tenth of an inch for every ninety feet we aſcend, or an inch for three hundred yards. Such is the elaſticity of the air, that what is contained in a nut ſhell, may eaſily, with heat, be dilated into a ſphere of unknown dimenſions; on the contrary, the air contained in a houſe may be compreſſed into a cavity not larger than the eye of a needle.

58. *Height of the Air.*] The height of the atmoſphere above the ſurface of the ſolid earth, is not certainly known. From the refraction of the rays of light from the celeſtial bodies, in paſſing to our world, it has been concluded, that it reaches but to a ſmall diſtance in the intermundane ſpace; when it is conſidered, however, that the air which we live in, is near a thouſand times lighter than water, and that the body of air ſurrounding the globe, is equal in weight to an ocean of water, which would cover the world about thirty feet deep, it muſt neceſſarily ſeem to be ſome miles in height; but when its extreme elaſticity is remembered, and how ſenſibly it grows lighter the higher we

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aſcend, we may perhaps reaſonably conclude, that it reaches ſeveral hundreds of miles from the earth's ſurface, and even ſuppoſe that it may be poſſible that the air, in its ſublimer regions, diveſted of thoſe groſs vapours and exhalations which ariſe from the earth, may be thus refined into ether, light, or electrical fluid, and fill the immenſity of ſpace that ſurrounds us.

59. *Meteors.*] The atmoſphere, which we breathe, appears to be one of the moſt compounded bodies in all nature; it has been conſidered as one large chemical veſſel, in which an infinite variety of operations are continually performing. As organized bodies, we ſee, receive of this general ſtore, ſo alſo they are found to furniſh their copious ſupplies: plants and animals, earth, waters, and minerals, from their ſecret beds, are found to emit their ſeveral vapours or effluvia, which, mixing in this vaſt alembic, float a while in common. In this great and general mixture, found ſo abſolutely neceſſary to the ſupport of all living things, all other bodies are found to decay; expoſed to it's influence, liquors loſe their ſpirit; cloths their colour and firmneſs; metals ruſt, and ſtones in time moulder away. In this great theatre the meteors make their appearances, and act the part allotted them in the works of creation; here is collected the gentle dew and the hoar froſt; here clouds are gathered and carried along by the wind, to refreſh the earth in falling ſhowers, give riſe to rivers, ſpread vaſt inundations of water over the fields, or lay them under a covering of ſnow or hail; here mock ſuns, mock moons, halos and rainbows make their gaudy, but tranſitory, appearance; and here the water-ſpout, dreadful to the mariner; here rolls the dreadful thunder, here lightnings dart their livid flames, and ſometimes, ſtriking upon the earth, deſtroy it's productions, fill it's inhabitants with terror, and ſometimes ſtrike them dead; here the auroræ or ſtreamers, the ignes fatui, or wandering fires, called alſo Jack with the Lanthorn, here falling ſtars, as they are ignorantly termed, or fiery balls, of various ſizes, appear with ſplendour during the gloom of night, and aſtoniſh mankind, who too often ſeem willing, with ſuperſtitious awe, to find portentous omens of dire calamities in theſe curious phenomena, rather than inveſtigate their cauſes or diſcover their uſes.

Enough has been ſaid on our compound atmoſphere, to ſhew, that it may contain in itſelf ample materials for producing all the various phenomena of the meteors.

Dew is that vapour which the warmth of the day had exhaled from the earth, but condenſed into drops by the cold of the night, falling by their weight; and hoar is this vapour in a frozen ſtate: clouds are miſts or exhalations raiſed on the ſame principles, and collected in the air; rain is the cloud condenſed into drops, falling by their weight. Hail is the drops, frozen in falling; and ſnow is the leſs compact cloud, frozen before it fell. Parhelii, or mock ſuns; parſalenes, or mock moons; halos, or the coloured circles that ſurround them, and which, though always confined to our atmoſphere, ſometimes ſeem alſo to ſurround the real ſun and moon, and the other heavenly bodies; the beautiful iris, or rainbow; theſe gaudy meteors are all produced by the rays of light falling on clouds, miſts, or rains, and being reflected and

refracted to the eye. The aërial, or watery meteors, are often ſeen with delight; thoſe of the fiery kind aſſume a more ſplendid and even a terrifying aſpect; it is not every one that is able to look coolly on them. The thunder and the lightning fill the philoſopher with awe, while the fluctuating ſtreamers, and the tranſient blazes of inflammable vapours, ſtrike the ſuperſtitious with dread of future calamities. Lightning is found to be a flaſh, produced by the electrical fluid, ruſhing from one part into another: and thunder, the ſound of the ruſhing torrent, reverberated among the clouds. The fiery balls, which are ſeen ſhooting through the atmoſphere in the night, of various magnitudes and different forms, ſeem all to ariſe from inflammable vapours, taking fire from their fermenting or effervescing in the air.

In the tranſitory meteors, making their ſudden, gaudy, and unſubſtantial appearance, we ſee a lively picture of all natural things. As the meteor flies through the air, ſpreads it's long and gilded train, and is ſoon diſſolved to common air again, ſo it is with us, ſo with the moſt ſuperb monuments of art, and ſo with the grandeſt ſcenes of nature. Wherever we turn our eyes, all appears unſtable, all in motion, and to the general circulation the moſt durable bodies ſeem to owe their origin; ſtones and metals ſeem to be concretions of ſoft ſubſtances, and both are found to ruſt or moulder away; plants and animals ſoon arrive at maturity, and as quickly haſten to their diſſolution.

60. *Partial and noxious Vapours.*] As the atmoſphere is found to be a general compound, ſo from accidental cauſes, in particular places, the mixture is often partial; different ſupplies of vapours and exhalations from animal, vegetable, mineral, and other ſubſtances, and different degrees of heat and cold, all tend to affect this element; as any of theſe ſingly prevail they generally render it unwholeſome and inconvenient for reſpiration, but, as they are mixed together, they neutralize the obnoxious qualities of each other, and become ſalubrious to the conſtitution.

In mines, where the air has not an opportunity of circulating, it becomes charged with particular vapours or exhalations, which are often found mortal; theſe are ſtrangely diverſified both in their appearance and effects.

Some reſemble, in fragrance or ſmell, the pea bloſſom in bloom, and hence have their name; others ſhew their approach, by leſſening, and at laſt, putting out the flames of the candles, and thus give the workmen an opportunity of eſcaping; the fulminating damps ſtrike down all before them, like a flaſh of gunpowder; and a fourth kind, more deadly than all the reſt, being by accident ſet free, ruſhing out from where they have been long confined in old mines, inſtantly ſtifle thoſe they overtake.

In ſome mines the workmen breathe without any apparent prejudice to their health; yet if a lighted candle be introduced the whole cavern at once becomes one furnace of flame; by a very peculiar contrivance, a ſufficient light for theſe gloomy operations is ſupplied with ſafety; this is by means of a great wheel, the circumference of which

which is beſet with flints: this being turned, the flints ſtrike againſt ſteels placed at the extremity, and thus a ſtream of tranſient ſparks of fire is produced: in others, the workmen uſe only wooden inſtruments, and are cautious not to enter with nails in their ſhoes, as a ſingle ſpark ſtruck by colliſion, or in the manner of flint and ſteel, would ſet the whole mine in a blaze; yet here lighted candles may be uſed with convenience and ſafety.

The ſurface of the earth, and it's inhabitants, ſeem much affected by what is going on beneath in the mine; mineral exhalations, by their corroſive qualities, often deſtroy vegetation, and taint the air; from ſtagnant waters alſo, from luxurious ſoils, from the ſea itſelf, when not ſufficiently agitated, eſpecially in hot climates, the air is often rendered unwholeſome; but from diſeaſed and putrid bodies of animals, the moſt ſubtle and noxious effluvia ſeems to ariſe. Compared with theſe, other vapours ſeem groſs and heavy; theſe fly every where, penetrate every where, and the vapours that fly from a ſingle diſeaſed perſon, ſoon render it epidemic. The plague is the firſt upon the liſt in this claſs of human calamities; it ſeems, however, during the laſt age, to have abated much of it's violence, even in thoſe countries where it is moſt common; but diſeaſes, like empires, have their revolutions, and thoſe, which, for a while, were the ſcourge of mankind, ſink, unheard of, to give place to new ones more dreadful, as being leſs underſtood. As, in the bowels of the earth, there is a variety of operations continually carrying on, far remote from the obſervation of man, which, notwithſtanding, affect the atmoſphere he breathes with their ſubtle exhalations; it has been thought, that the temporary diſorders, with other calamities, which we can neither foreſee nor prevent, may be elaborated in thoſe ſecret receſſes, and have their duration, while the ſubterraneous proceſs is going on.

61. *Analyſis of Air.*] While the atmoſphere, heretofore conſidered as a ſimple element, or homogeneous fluid, is found to be a truly chaotic maſs, which we may conſider as a vaſt laboratory, in which the meteors are prepared, in which all the ſeeds of life and of death are developed, in which are found the elements of the compoſition of all bodies, and to which their decompoſition returns the ſame principles; while the atmoſphere is found to be ſo heterogeneous a compound, the lateſt diſcoveries in chemiſtry, ſeem to ſhew that it is reducible to two principles or conſtituent parts, and that the others are rather adventitious than neceſſary. Theſe principles, or elements, are gaſes, and are called oxygene and nitrogene. Nitrogene is that part of the air which is reſpired from the lungs; oxygene is the part abſorbed in the lungs, for the ſupport of life. Plants imbibe air: they cannot live without it; but it is the nitrogene which is neceſſary for their ſupport: they emit or reſpire the oxygene. It appears, therefore, that the animal and vegetable departments labour for each other; and that by this admirable reciprocity of ſervices, the atmoſphere is continually repaired, and an equilibrium maintained between it's conſtituent principles. Nitrogene gas is ſo called, from it's being the radical of nitrous acid: it is alſo called mephitis and azote, from it's property of depriving animals of life: if breathed alone it ſuffocates them.

Oxygene has it's name from it's acidifying property, for it appears that every acid is a combination of this gas, with ſome elementary ſubſtance or baſe. It has alſo been called the air of fire, becauſe combuſtion never takes place without it; and vital air, becauſe it is the only gas proper for reſpiration. The moſt intenſe heat is produced by burning bodies in it; hence an iron wire, bent in a ſpiral form, and having any combuſtible ſubſtance, even a piece of tinder, attached to it's lower end and ſet fire to, on being plunged into it, is gradually melted with a moſt brilliant flame, and falls in drops. The light of glow-worms is ſo beautiful and bright in oxygenous gas, that one ſingle inſect affords light to read very ſmall print; and, the breathing of vital, inſtead of common, air, affords the moſt comfortable relief in phthiſical caſes.

The mixture of about ſeventy-two parts of nitrogene gas, and twenty-eight of oxygene, form this fluid maſs in which we live. The characteriſtic properties of vital air, are modified by thoſe of nitrogene gas, and theſe modifications even ſeem to be neceſſary; for, if we were conſtantly to reſpire vital air in it's ſtate of purity, it is thought it would quickly conſume our life. Perhaps, however, our days would be more eaſy and cheerful, we ſhould be capable of greater efforts in a given time, we ſhould live quicker.

62. *Analyſis of Water.*] Water, which has ſo long been conſidered as a ſimple element, is found to be like the air, a compound of two different principles. It is formed by the combination of hydrogenous and oxygenous gas. Hydrogene has it's name from it's property of producing water; it is alſo called inflammable air, from it's property of burning or exploding with vital air. It is not proper for reſpiration; yet it has not the ſudden mortal effects of nitrogene. In the formation of air, oxygene is little more than a quarter of the compound, the reſt is nitrogene. In the compoſition of water, hydrogene is not one-ſixth part of the fluid, the reſt is oxygene. The nitrogene gas is nearly as heavy as the oxygene; the common air is about twelve times the weight of hydrogene.

Water is contained in bodies, in a greater or leſs quantity, and may thus be conſidered in two ſtates; it is either in the ſtate of ſimple mixture, or in a ſtate of combination. In the firſt caſe, it renders bodies humid, is perceptible to the eye, and may be eaſily diſengaged; may be evaporated or frozen. In the ſecond, it exhibits no character which ſhews that it is in a ſtate of mixture. It exiſts in this form in cryſtals, ſalts, plants, animals, &c. Water, exiſting in a ſtate of combination in bodies, concurs in imparting to them hardneſs and tranſparency. Salts, and moſt ſtony cryſtals, loſe their tranſparency when they are deprived of their water of cryſtallization. Some bodies are indebted to water for their fixity. The acids, for example, acquire fixity only by combining with water.

Under theſe various points of view, water may be conſidered as a ſort of general cement. The ſtone and ſalts, which are deprived of it, become pulverulent; and water facilitates the coagulation, reunion, and conſiſtence of the particles of ſtones, ſalts, &c. as is ſeen in mortar, lutes, &c.

Water,

Water, when diſengaged from it's combinations, and in a ſtate of abſolute liberty, is one of the moſt conſiderable agents in the operations of this globe. It bears a part in the formation and decompoſition of the various bodies in the mineral department: it is neceſſary to vegetation, and to the free exerciſe of moſt of the functions of animal bodies; and it haſtens and facilitates the deſtruction of theſe bodies, as ſoon as they are deprived of the principle of life. Such is the chemical deſcription of this fluid, ſince ſuch diſtinctions are made, we may now conſider it phyſically and mechanically.

63. *Properties of Water.*] Water, whether we view it as it diverſifies and gives coolneſs to the landſcape, or obſerve it in veſſels for domeſtic purpoſes, always, when undiſturbed, preſents a ſmooth and even ſurface; this ſeems it's firſt, and moſt ſtriking, appearance; and, indeed, when put in motion, from any external cauſe, even it's waves ſeem as ſo many efforts to recover it's level; or to ſpeak preciſely, it's ſpherical ſurface, agreeing with the form of the earth, and immediately cauſed by the attraction of gravitation. On this property in water depend the ſeveral laws in hydroſtatics, e. g. if a ſhip, boat, or tub, or any other body, be placed in the water, it neceſſarily puts a part of the fluid out of it's place; but the water, in it's efforts to preſerve it's own level, ſhall ſuffer no more of itſelf to be diſplaced, than is equal to the weight of the body. If the body be wholly immerſed, without diſplacing it's own weight of the fluid, it is heavier than it's own bulk of water, or ſpecifically heavier, and conſequently ſinks. In lifting ſuch a body, while in the water, it will be as much lighter than it was in air, as the water it has diſplaced is heavier than the ſame bulk of air. Thus, in a hydroſtatic balance, a good guinea loſes leſs of it's weight, on being immerſed in water, than an adulterated one, which being leſs denſe, and conſequently taking up more room, neceſſarily diſplaces more of the fluid, and, conſequently, loſes more of it's weight, on being tried in the water. If a body diſplace it's own weight of the water, without being totally immerſed, it is lighter than the fluid, and will conſequently ſwim; and a ſhip with it's loading of the heavieſt articles, or a veſſel of heavy metal, as a ſilver cup, with it's contained air, anſwering this latter deſcription, does, on the ſame principles, neceſſarily ſwim. In a pipe, of the form of the letter U, for inſtance, if water be poured in at one arm, to a certain height, it will riſe to the ſame in the other; this may ſhew, how cities are ſupplied with water by tubes, and how it riſes to rooms above ſtairs. If we reverſe the pipe, already filled with water, and put one arm down into an empty hogſhead, the other into a contiguous one, full of water, this will ſet a running through the pipe into the empty one, and continue thus diſcharging itſelf, till the fluid is on a level in both the veſſels. This may ſhew the nature of the ſyphon: in this experiment, the water might riſe about thirty feet in the pipe, if it were long enough, the weight of the amoſphere, on the ſurface of the earth, being incapable of keeping it up higher; in the other, if practicable, the tube might ſink to the centre of the earth, may reach even to our antipodes.

The preſſure of water, againſt the ſides of the cavity which contains it, whether tub or veſſel, or a valley of the earth, is as the height of the ſurface of the fluid above the part, and not as the extent or quantity of the waters; hence, even children, in their play, will ſometimes with ſtones, weeds, and ſand, bank out the waters of the ſea, till the tide, by a ſlow, but ſteady riſe, having gained the ſummit of their ſandy little citadels, at once overflows them; and hence, were it not for the motion and violence of the waves, as ſlight a bank might ſometimes prevent the waters of the ſea from deluging a whole country, as that which confines a pond of the moſt trifling extent. Hence, on the other hand, the addition of a ſingle gallon, or any ſmall quantity of water, applied in a particular manner, might be made to burſt an hogſhead, or to raiſe a prodigious weight, as effectually as many hundred gallons.

If, in the top of an hogſhead, filled with water, there be inſerted a pipe of ſmall dimenſions, but conſiderable height, and water be poured in at the top of the pipe to any certain height, the bottom and ſides of the veſſel will be as forcibly preſſed by this ſmall addition of the fluid, as if the veſſel had been continued, in it's full dimenſions, and filled with water, to the ſame height. If a huge piece of timber lie in a ditch, juſt large enough to receive it and a little water, on this being poured in, the ſmall quantity of the fluid, that the ditch can receive, will as effectually float it, or bear it up, as all the waters of the largeſt lake.

If a tall and narrow veſſel be filled with water, and pipes be inſerted in it's ſides, at different heights, the force of the water ſpouting out at theſe pipes will be proportionably great, as it diſtant from the ſurface of the fluid; and if ſimilar pipes be inſerted, in the ſame manner, into the moſt extenſive reſervoir, the very ſame effects will take place, without increaſed force, whether their pipes be horizontal, or bent to ſpout the water upwards and downwards.

The very curious property of water, preſſing only according to it's altitude, and the extent of the ſurface where the preſſure falls, is alſo in the air, and the other gravitating fluids, though the effects may be more commonly obſerved in the water.

Fluids differ in their weights or denſities; ſpirits are lighter than water; ſtrong ſpirits than weak. To determine the force of ſpirit, or the lightneſs of fluid, the hydrometer has been contrived. It is a hollow ball, with a weight at one ſide to ſink it, and a tube, marked with degrees, ſtanding up on the other: now, according to the ſtrength of the ſpirit, the inſtrument will ſink, and the fluid will wet or mark the degrees on the outſide of the tube accordingly. Fig. 49.

64. *Solidity and Force of Water.*] Water, however ſoft and yielding it may generally appear, is found to be a very ſolid body; bullets, fired obliquely on it's ſurface, become flat, or are broken in pieces, as if fired againſt ſtones; and boards, on being thrown on it, ſometimes are broken; and it is hardly ſenſibly compreſſible into leſs room than it naturally occupies; hence this ſubtle fluid, on it's being preſſed forcibly in a hollow globe of gold, by means of a ſcrew, has been found to ouze through the pores of this denſeſt of all metals, and ſettle on it's ſurface

ſurface like a dew; till at length burſting a hole in the globe, it ſpun out with great vehemence. When ſtiffening into ice, it cleaves aſunder, by it's expanſion, the maſſive rocks that confine it; and ſo vaſtly is it enlarged, when raiſed into vapour, and ſo great is it's ſpring, or force, in that ſtate, that a drop of water, when heated into ſteam, will raiſe many tons weight.

65. *Supply of Rivers, Mineral Springs.*] How rivers receive their ſupplies of water, is eaſily accounted for. Miſts and exhalations are perpetually raiſed by the heat of the ſun, from the ſurface of the earth, and in ſtill greater abundance from the waters of the deep. Clouds or vapours, being thus formed, are carried by the wind againſt the mountains, are thereby condenſed into drops on their ſummits; where, ſinking into the earth, they deſcend in the mountain, till meeting with rocks, beds of clay, or other obſtructions, they are ſtopped in their deſcent, and break out in ſprings, at the ſides or bottoms of the hills; a number of theſe rills meeting in the valley, form brooks and larger ſtreams; and theſe, collected together, compoſe the largeſt rivers; and hence, the largeſt rivers have always their ſource among the higheſt mountains, whoſe cloud-capt tops never want their ſupply. The water, in paſſing through different earths, and veins of foſſiles, often becomes impregnated with their particles; and thus are produced the different medicinal and poiſonous ſprings. All theſe, with their various properties, together with rivers in general, falling into the ſea, ſoon mix with that vaſt collection of waters, which lying in the deep and unfathomable valleys of the earth, by the order of attraction, is, with all it's roarings, thus ſtayed within bounds, and prevented from deluging the land.

66. *Saltneſs of the Sea.*] The ſaltneſs of the ſea is a property in that element, which appears to have excited the curioſity of naturaliſts in all ages. The ancients ſuppoſed, that the ſun continually raiſed dry ſaline exhalations from the earth, and depoſited them on the ſea; the preſent eſtabliſhed opinion ſeems to be, that the ſea's ſaltneſs is ſupplied, not only from rocks or maſſes of ſalt at the bottom of the ſea, but alſo from the ſalt which the rains and rivers, and other waters, diſſolve in their paſſage through many parts of the earth, and at length carry with them to the ſea; that little but the freſh waters of the ſea riſe in vapours, and the ſaltneſs remains behind; that hence the ſea becomes every year more and more ſalt. A late philoſopher has carried this idea ſo far, as to fancy, that, by obſerving the increaſe of it's ſaltneſs, during a certain time, the time of it's acquiring all it's ſaltneſs might be found out by the rule of proportion; and this, he imagined, would give us the age of the world. But are the ſupplies from rivers always the ſame? Are the rocks or maſſes of ſalt at the bottom, for ever diſſolving, and yet unchangeably continue to give the ſame ſupply? May not the ocean, rather by it's changing currents, at one time and place, tear up from their loweſt depths, and diſſolve large ſtrata of ſalts; at another place or time, by the quieſcence or other diſpoſition of it's waters, or of themſelves, may not the diſſolved bodies again concrete, cryſtallize, or petrify, and ſettle to the bottom? Does not the rock-ſalt, incruſted by the heat of the ſun, evidently

ſhew

ſhew, that the ſea does not for ever hold, in a ſtate of ſolution, thoſe bodies that have been once diſſolved in it's waters? ſo that there ſeems little reaſon to fear, that the ocean will at length become a pit of ſalt; which we might reaſonably fear, if ſome of the preceding conjectures were juſt; and as little cauſe to apprehend, as ſome have done, from the petrifaction of ſoft ſubſtances, that the whole earth ſhall at length become one ſolid ſtone. In fact, wherever we turn our eyes on the works of creation, all ſeem continually in a ſtate of change or circulation. "The ſun," ſaith Solomon, "ariſeth, and the ſun goeth down, and pants for the place from whence he aroſe; all rivers run into the ſea, yet the ſea is not full; unto the place from whence the rivers came, thither they return again."

The ſaltneſs of the ſea renders it more heavy and buoyant; a greater advantage to the mariner is, that he is leſs liable to take cold, on being wet, than if it had been freſh; by it's ſaltneſs, the ſea is kept longer from freezing; and, perhaps, it's ſaltneſs helps to preſerve it from becoming one putrid lake; yet, ſalt as it is, in hot climates, after a long calm, it is found to become very putreſcent; and, indeed, it ſeems to owe not leſs of it's ſweetneſs to it's continual motion, than it does to it's ſalt.

67. *Motion, Tides.*] The waves of the ſea ſeem generally produced by the winds agitating it's ſurface; there is another, more general and invariable motion, the cauſe of which appears not ſo obvious; after ſome wild conjectures of the earlieſt philoſophers, it became well known in the times of Pliny, that the tides were under the influence, in a ſmall degree, of the ſun; but in a much greater, of the moon; but how theſe heavenly bodies produced theſe effects, was to them incomprehenſible. The moderns, however, have concluded, it is by the force of attraction, and the centrifugal force. It is obſerved of the ocean, that the part of it's ſurface, which is oppoſite to the moon, is, by the attraction of this planet, conſiderably raiſed; and that this ſwell continually follows the moon from eaſt to weſt; or rather it's place is turned away, while the ſwell itſelf remains ſtationary under the moon. It is obſerved alſo, that on the ſide of the globe oppoſite to this ſwell, the waters then riſe; and the parts of the ſea, lying between theſe ſwells or riſings of the waters, neceſſarily fall; theſe ſwells, in the ocean, produce the flowings of the tide, and the full ſea, or high water; and it's intervening falls produce the ebbs or low water, in channels or harbours remote from the ocean; hence it may be ſeen, why we have two tides in the courſe of one lunar day: the tide takes up ſome time in flowing to, and receding from, remote channels and harbours; hence the tides happen later in theſe than in the ocean; in ſome places, where the ſhores are directly oppoſed to the influx of the waters, they riſe to a great height; where the entrance is narrow, and the ſea large, as in the Mediterranean and Baltic, there is ſcarcely any ſenſible tide; the water ruſhing in and out at the ſtraights, being incapable of elevating or depreſſing ſo vaſt a body as the incloſed ſea, in ſo ſhort a time. Beſides the tides cauſed by the moon, the ſun is alſo found to produce a ſort of tide, though, from it's immenſe diſtance from our globe, it is ſo ſmall as hardly to be noticed, and is

only

only obſerved as it affects the lunar ones: when the ſolar and lunar tides or ſwellings happen together, which they do at the change of the moon, and at the full, they produce the ſpring tides; when the ſolar tide or ſwell falls on the lunar ebb, and it's ebb or depreſſion on the lunar ſwell or tide, which always takes place at the time of the half moon, from their counteracting each other, we have only neap tides.

68. *Winds.*] It would be far beyond the deſign of this work, to attempt a detail of the many wonders of the deep; it would perhaps be a defect, however, to leave this element without taking ſome notice of it's currents, it's eddies, and it's ſpouts; and alſo of the winds, which, though their conſideration belongs properly to the ſtudy of pneumatics, yet as they are moſt ſteady and conſtant on the ocean, and peculiarly intereſting to the mariner, philoſophers have principally built their theories on the obſervations, that this hardy race of men have made upon this fluid element; and the analogy between the winds, and the currents of the ſea, ſeem ſufficiently cloſe, to conſider them together. It has been obſerved, that the general motion of the tides, on the ocean, is from eaſt to weſt; this is found to produce one great and general current of the waters, in the ſame direction, as the mariner often experiences on the extenſive main; but more eſpecially in the ſtraights, which connect large parts of the ocean together; where a large quantity of water, having to paſs through a narrow place, it ruſhes with great rapidity. Currents are found in different parts, to run in all directions, eaſt, weſt, north, and ſouth; but theſe generally ſeem all but deviations from the general current; and chiefly cauſed by jutting promontories, inequalities at the bottom, intervening iſlands, oppoſing ſhores, &c. In like manner, on the extenſive ocean, at and near the line, there is found to be a ſimilar current of the air, a general wind, continually blowing from eaſt to weſt; from the poles alſo, the air is found continually to ruſh towards the equator, which general currents are thus accounted for; the heat of the ſun rarefies the air immediately under it, in the tropical regions; in one diurnal revolution of the globe, this rarefaction will evidently have obtained round the whole torrid zone, from eaſt to weſt; the rarefied air aſcending by it's lightneſs, the denſer air ruſhing in, to reſtore the equilibrium, it ſeems obviouſly clear, how theſe currents are produced, and all other gales and breezes, in different parts of the world, are accounted only accidental deviations from theſe general currents; theſe currents of the atmoſphere, namely, the general one from eaſt to weſt, and the more particular ones from both the poles, may ſerve to account for all the phenomena of trade winds; which, if the whole ſurface of the globe were ſea, might be conſtant, and for ever continue to blow in one direction; but there are a thouſand circumſtances to break theſe air currents into ſmaller ones, to drive them back againſt their general courſe, to raiſe or depreſs them, to hurl them in ſtorms, or whirl them into eddies.

That heat neceſſarily produces wind, may obviouſly appear, from the current of air that is always found preſſing to the culinary fire:

hence

hence, exhalations and ſhowers, volcanos and earthquakes, hot ſandy deſerts, and bleak mountain tops, and perhaps more than all others, the preſence, abſence, or the partial diſtribution of the electrical fluid, tends to alter the temperature of the air: they conſequently all contribute to produce the fluctuating winds, while the inequalities of the earth's ſurface, and even the motion of the ſea, all influence or vary their directions; but the air is ſuppoſed alſo, from the ſame attraction, to have it's regular tides, as well as the ſea, though inviſible to us; hence, in ſpring and autumn, or at the time of the equinoxes, the ſun and moon, being both on the equator, their attractions are moſt powerfully combined, produce high tides in the ſea; at that time alſo, the higheſt winds are found to prevail. In our climate, the winds are uncertain and changeable to a proverb; in many parts of the world, they pay their ſtated viſits; in ſome places, they blow one way by day, and another by night; in others, for one half the year, they go in a direction contrary to their former courſe, and in ſome places, as was already obſerved, the winds never change.

69. *Whirlpools, Waterſpouts.*] Moſt people have obſerved, in the ſtream or river, when the current has been interrupted by bridge, ſtone, or any other thing, an eddy or whirlpool has been formed in the water, juſt below the obſtacle; on a much larger ſcale, theſe effects take place in the currents of the ſea. The whirlpool Charybdis, and the rock Scylla which produces it, in the Straights of Meſſina, were terrors to the puny mariners of antiquity; and their poets have not failed, in deſcribing theſe dangers, to add the romantic horrors of ſupernatural influence; they have feigned, in theſe dreaded places, monſters who had been metamorphoſed by magic ſpells, or by the will of Jupiter; and the noiſe of the waves, were in their extravagant fictions, the barking of dogs, and the howlings of wolves. Modern navigation, however, ſeems ſuperior to any little eddies that may be found in the Mediterranean; yet, in the ocean there are whirlpools, that mock the arts and improvements of man. That called the Maelſtrem, or Navel of the ſea, on the coaſt of Norway, produced by the ebbing of the tide, is conſidered as the moſt dreadful and voracious in all the world; whatever falls within the circle of it's violence, whether timber, trees or ſhipping, is ſwept around by the force of the waters, brought nearer and nearer to the centre of it's dreadful vortex, and at length ſwallowed up; no ſkill in the mariner, or ſtrength of rowing, can work an eſcape; even whales themſelves fall victims to it's ſuperior force, while they roar with terror, and in vain attempt to get free from it's certain deſtruction; what has thus been ſucked in by the ebb, is vomited forth with equal violence, on the coming or flowing of the tide. In like manner, eddies or whirlpools are produced in the air, by it's contrary currents; theſe eaſily whiſk up light bodies, as duſt, hay or ſtraw; in the deſerts of Africa and Arabia they ſometimes whirl up a body of ſand, and bury alive whole caravans of travellers; upon land they alſo ſeem to roll together the clouds, and condenſe them one upon another, darting down a ſyphon or ſpout, even tearing up trees, and pouring down a ſudden inundation of waters;

ters. At ſea, it is perhaps theſe whirlwinds alone, that produce the waterſpout, ſo dreadful to mariners, and ſo aſtoniſhing to the obſervers of nature. This curious phenomenon is common in the tropical ſeas, and ſometimes it is ſeen in our own; in the ſpot whence it aſcends, the water is obſerved to be agitated, and to riſe above it's level, with a froth or miſt about it; the miſt is then whirled about with amazing rapidity, and aſcends to the clouds in a column or canal, as thick as a man's finger, his arm, or ſometimes his whole body; when it has reached the cloud, which hangs over it, it ſpreads out like the mouth of a trumpet, and mixes with it, or perhaps, it ſometimes in this way, altogether produces the cloud of itſelf; the canal, or ſpout, in it's aſcent, ſometimes riſes perpendicularly, at others obliquely; ſometimes it is bent, ſometimes it is broken, and will join together again; if the cloud be carried along, the canal follows it; all which ſeems to ſhew, that it is entirely under the influence of the whirlwind, and produced by it alone. They are ſometimes obſerved in calm weather, but we know not how the winds may be raging in the upper regions of the air; whirlwinds are quite local tempeſts, and ſometimes their force is confined to a very little ſpace. Theſe waterſpouts laſt for ſeveral minutes, the canal then leſſens by degrees till it vaniſhes, and the ſea about it reſumes it's level. If one of theſe fall upon a veſſel, it's waters are ſufficient to break down it's rigging, or ſink it in the deep; it is ſaid, however, that ſhips of any force uſually fire thir guns at them, loaden with a bar of iron; and if ſo happy as to ſtrike them, the water is inſtantly ſeen to fall from them, with a dreadful noiſe, though without any further miſchief.

SECTION VI.

The Mineral Department continued, including the Solids, &c. as Alkalis Acids, Earths and Stones, Semi-metals and Metals.

If, leaving the water, and ſetting our feet on firm ground, we caſt our eyes around us on the landſcape, many are the wonders that preſent themſelves to view; all living animals, the vegetable productions of the earth, it's unequal ſurface.

70. *Diſpoſition of the Earth.*] Thoſe who obſerve the broken banks of rivers, or ſteepy ſea ſhores, or carrying their ſpeculations ſtill farther, examine the diſpoſition of the earth, as it appears in quarrying or digging of mines: they find it generally lying in horizontal layers, or ſtrata of different kinds, like the ſettlings of waters. The firſt layer that preſents itſelf, is moſt commonly the bed of vegetable earth or mould, which generally covers the ſurface of our globe, and ultimately is the ſupport of all it's inhabitants; for from this vegetables derive their growth and nouriſhment; upon theſe live the animals, and upon one another. As this affords to animals and vegetables their ſupport, ſo the ſpoils of theſe, when dead or decayed, return to the duſt of the ground

ground, from whence they were formed, and thus keep up an unceaſing circulation. The moſt common diſpoſition of the layers is, that under the firſt earth is found gravel or ſand; then clay, or marle; then chalk, or coal, marbles, ores, &c. This diſpoſition, however, is far from being uniformly continued all over the globe; in different ſoils, the order of theſe layers vary.

And they are ever at ſmall intervals cracked through as it were by perpendicular fiſſures; the earth reſembling, in this reſpect, the muddy bottom of a pond, from whence the water has been dried off by the ſun, and thus gaping in ſeveral chinks, which deſcend perpendicular to it's ſurface. Theſe fiſſures, which are to be found in almoſt every quarry and every field, are ſometimes empty, but oftener cloſed up with adventitious ſubſtances, that the rain, or ſome other accidental cauſes, have conveyed to fill their cavities; there are ſome not above half an inch wide, ſome a foot, ſome many yards. In ſome places, they form unfathomable caverns; and among lofty mountains, tremendous chaſms. It is remarkable, that, in digging deep in the earth, there is generally found an alternation of layers; firſt, the ſoil or mould; then the heavier ſtrata; then ſoil, mould, or turf; again the heavier layers; afterwards earth, &c. as far as human obſervation has yet penetrated, or until granite rock is diſcovered.

It is wonderful, that in the different parts of the globe, on the tops of mountains, as well as in the vallies, at very great depths, and even in the hearts of ſolid rocks or marble, trees are found; and ſhells, which are leſs liable to decay, are diſcovered in aſtoniſhing abundance; parts of animals alſo, corals, and a variety of petrifactions.

The various bodies, which are found by digging in the earth, are called foſſile ſubſtances. Foſſiles appear to form the moſt ſimple productions in the economy of creation, whether diſpoſed in looſe independent maſſes, or in horizontal ſtrata, in angular columns or baſaltes, or in the diſportive like ramifications or ſhootings, which they ſometimes aſſume in cryſtallization; hence we find under ground, thoſe bodies that have once held a higher place in the creation, as animals and vegetables, have put off the delicacy of their former conſtitutions, and become real ſtone, while they have ſtill preſerved their original forms; or perhaps rather, by abſorbing water, holding lapideous particles in ſolution, the interſtices have been filled, and the concretion, has conſequently borne the form of the organized body: hence foſſils are compounded with each other, through innumerable varieties; hence many of the compounds are produced in chemiſtry, and many more that are not to be met with in the earth; hence ſome of theſe ſubſtances are diffuſed through the whole creation.

It is ſuppoſed that ſome great convulſions or revolutions, in the natural world, have produced the irregular appearance of the earth. The Hebrew writings inform us that our earth was once deluged by a general flood of waters; and later accounts, tell us of more partial inundations, of ſudden earthquakes, rocks cleft by the froſt, mountains accumulated or torn to pieces, by ſubterraneous fires or volcanos; of towns ſwallowed up in the earth; of countries laid under the rolling waves of the ocean; and of lands riſing from the midſt of the waters,

and

and becoming the habitations of beaſts and of men: ſo tranſient and uncertain are all earthly things.

If it were permitted to man to follow, during ſeveral ages, the various changes, which are produced on the ſurface of our globe, by the numerous agents which alter it, we ſhould at this time have better underſtood the cauſes of theſe phenomena; but, caſt, as it were, for a moment, upon a ſmall point of this vaſt theatre of obſervation, he regards the mighty works which have been preparing for many ages, and himſelf diſappears in the midſt of his enquiries, when he has juſt proceeded ſo far as to connect a few facts together. Thoſe revolutions which have been accounted convulſions in nature, ſeem not only uſeful, but neceſſary to the ſupport of the preſent conſtitution of our globe. What would be the order of things, if there were not occaſionally a riſing up of the earth, whether by ſubterranean fires, or other cauſes; if there were not, in different places, a reduction or waſhing away of land by the waters of the ſea?

The effect of rain is to depreſs the mountains. The water which falls on their ſummits, waſhes them down into the vallies, and thus reduces them into gentle uplands; or it flows down in torrents, wears away the ſoil, hollows out a bed or channel, and carries along with it portions and fragments of ſuch ſtones, as it looſens in it's courſe. Theſe ſtones, rolled along by the water, ſtriking together, break off their projecting angles. The ſea receives them from the rivers, and throws them back again, on the ſhore; by theſe depoſitions, the land encroaches upon the ſea. Man erects his habitations on it, and cattle feed thereon; on digging, he diſcovers the ſtones, all in ſome meaſure rounded, by their having been rolled about: thoſe which are near the hills are leſs ſo, and of larger ſize than thoſe, which have been carried farther, and been more broken in the waters; he finds alſo the wreck of ſea and land ſhells, and the remains of animals and plants. It happens, that theſe depoſitions vary in different ſituations, and under different circumſtances. In one place, ſtrata of ſhells, and other ſubſtances being depoſited, give riſe to marles, marbles, or limeſtone; in another, an abundance of plants lays a foundation for future coal-mines; the hills, in the mean time, are gradually wearing down, and the land is encroaching on the waters of the ſea. The ſea, driven off from one ſhore, cuts itſelf in other places, new channels and bays; and by the force of ſubterranean fires, the land is heaved up into mountains, or ſmaller ſwells. Thoſe lofty peaks of rock, which piercing the clouds, ſeem to be inacceſſible to the deſtructive force of time, the injury of ages, are only waſted down by imperceptible degrees. Theſe rocks are of granite, and naturaliſts call the mountains, which they form, primitive rocks or mountains. Theſe do not exhibit, in their compoſition, any remains of plants or animals; they have been conſidered as formations, prior to the exiſtence of thoſe creatures, and of the ſtones and mountains which contain them. It is even ſuppoſed, that the central part of the globe may be formed of granite, which, however, is generally, in it's own compoſition, an aſſemblage of certain ſiliceous ſtones; and the ſtones themſelves are ſeparately combinations of different principles.

When

When the human mind is employed in the acquiſition of ſcience, whether it be engaged in the ſtudy of the laws of the viſible creation, or in the contemplation of itſelf, it's manner of comprehenſion, or it's mode of utterance, in communication to others, it ever finds itſelf obliged to bring together, under general deſcriptions, things which have reſemblance to each other, though not exactly the ſame. In this way, it claſſes ideas, or their repreſentative words, and ſentences, and thus are formed, ſyſtems of grammar, rhetoric, and logic; and, in this way, it reduces the varieties in creation, into orders, claſſes, genera, ſpecies, &c. by theſe means, a regularity is eſtabliſhed, well enough adapted to the infirmities of our nature, but by no means ſuited to the real order of things.

The medium of words is incompetent to expreſs all the ideas, or, if we may ſo expreſs ourſelves, the different ſhades of idea or thought in the mind. Theſe evade every attempt, which we can make, to claſſify them. Even words themſelves, the different parts of ſpeech make ſuch approaches to each other, that a perfect grammar cannot be formed. In like manner, the infinitely varied works of creation elude every attempt which is made, to reduce them into natural diviſions, and, when the moſt ingenious analyſis is formed, it is found totally incapable of expreſſing the real economy of things.

The different colours of the rainbow, are not more intimately blended with each other, than are all the different parts of creation; than are the different degrees and kinds of intelligence in the mind.

71. *Simple Diviſion of Foſſils.*] In the conſideration of foſſils, we may firſt view them under four general diviſions, and afterwards conſider them under a more detailed analyſis.

I. *Earths, and Stones in general.*] Are, 1ſt, Mold, the ſupport of vegetables; 2d, Clays, which, mixed with water, harden in the fire into bricks, delfe, china, &c. 3d, Calcareous ſubſtances, as chalks, marles, limeſtones, marbles, convertible by heat into quicklime, and gyps into alabaſter. 4th, Talcs, which are found in flat, ſmooth laminæ, or plates. 5th, Slates alſo ſplit into laminæ or plates; theſe, with a variety of ſtones, from the freeſtone, or ſand, to granite, porphyry, flint, and the ſtill harder, the precious ſtones, are of various properties, and are accordingly applied to different purpoſes; ſome, beſides their being applied with other ſtones in building, are uſed as whet-ſtones; ſome ſtrike fire with ſteel; others are poliſhed, to glitter in the dreſs or furniture of the gaudy; and melted by fire, they form the tranſparent glaſs.

II. *Salts* are acids or alkalis. The acids and alkalis combined together form neutral ſalts.

III. *Inflammables* are ſulphur or bitumens. Theſe ſubſtances are both derived from the ſpoils of vegetables or animals.

IV. *Metals* are brittle ſemi-metals, or malleable metals.

In entering upon our more detailed analyſis of foſſile ſubſtances, we may commence with the alkalis and acids, as theſe ſeem to be moſt active agents in creation. Theſe, however, we ſhall find, do not, ſtrictly and excluſively, belong to the foſſile department; they are obtained

tained alſo from animal and vegetable ſubſtances, as are inflammables, or ſulphurs and bitumens.

72. *Alkalis.*] Alkalis have an acrid, burning, urinous taſte, and the property of converting ſyrup of violets green; they form glaſs when fuſed with quartzoſe ſubſtances; they render oils miſcible with water, and it is on this principle that ſoaps are formed; they effervesce with certain acids, and form neutral ſalts with all of them.

The alkalis are divided into fixed and volatile; the former are not volatilized, even in the focus of a burning mirror, and emit no characteriſtic ſmell; whereas the latter are eaſily reduced into vapours, and emit a very penetrating odour.

No more than two kinds of fixed alkalis have hitherto been diſcovered; one of which is called vegetable alkali or pot-aſh; the other mineral alkali, or ſoda.

The vegetable alkali is extracted from wood aſhes; it is alſo obtained by combuſtion, from the lees and tartar of wine. Salt of tartar is the alkali moſt commonly employed in medical uſes. If ſaltpetre (a neutral ſalt) be fuſed upon charcoal, the acid is decompoſed and diſſipated, while the alkali remains alone and diſengaged: this is called extemporaneous alkali. When the vegetable has been brought to the greateſt ſtate of purity, it attracts the humidity of the air, and is reſolved into a liquor.

The mineral alkali has been ſo called, becauſe it forms the baſis of marine ſalt. It is obtained from the burning of marine plants. The combuſtion is kept up without interruption for ſeveral days; and when all the plants are conſumed, a maſs of alkaline ſalt is found remaining, which is cut into pieces, to facilitate it's carriage and ſale. This is known by the name of rock ſoda, or ſoda. The mineral alkali is ſometimes found in a native ſtate: in Egypt it is known by the name of natron. There are lakes there which are dry during nine months in the year; but, in winter, a water of a violet red colour ouzes out of the earth, which fills the lakes to five or ſix feet in depth: the return of the heat of ſummer evaporates this, which leaves a bed of ſalt of two feet in thickneſs, that is dug out with bars of iron. It has alſo been found in other places.

The mineral alkali is leſs cauſtic than the vegetable, and is ſo far from attracting humidity, that it effloreſces in the air. It forms different products with the ſame baſes, and is more proper for vitrification.

Volatile alkali, or ammoniac, is produced by the putrefaction of animal ſubſtances. The diſtillation of all their parts affords it in conſiderable abundance; but horns are employed in preference, becauſe they are almoſt wholly reſolved into oil and volatile alkali. Some plants afford volatile alkali; for which reaſon they have been called animal plants: and the diſtillation of ſome ſchiſti or ſlates alſo affords it. This circumſtance is attributed to their origin, which is pretty generally aſcribed to vegetable and animal decompoſitions, the print of fiſhes and other ſubſtances being frequently found in them. Almoſt all the volatile alkali, made uſe of in commerce or medicine, is afforded by the decompoſition of ſal ammoniac;

and it is from this circumſtance, that the volatile alkali is called ammoniac.

Volatile alkali is found to be compoſed of nitrogene and hydrogene; the latter forming about one-fifth part of the compoſition. The fixed alkalis are ſuppoſed to be combinations of nitrogene gas with earthy baſes; vegetable alkali being nitrogene combined with lime; while the union of the ſame gas with magneſia forms ſoda or mineral alkali.

73. *Acids, &c.*] All acids appear to be combinations of oxygene or vital air, with elementary ſubſtances. Their taſte is ſour, as their name imports; they change certain blue vegetable colours into red, ſuch as the colour of turnſole and ſyrup of violets; and theſe two reagents are commonly uſed to aſcertain their preſence. They effervesce with alkalis; but weak acids cannot be diſtinguiſhed by this property, and the pureſt alkalis combine with acids without motion or effervescence. Their cauſticity ſeems to ariſe from their ſtrong tendency to combination; and from this property they are ſeldom found in a diſengaged ſtate.

Acids and alkalis, when combined together, in ſuch proportion that neither of them predominates, form neutral ſalts; ſubſtances altogether diſſimilar to the elements of which they are compoſed. The ſalt in common uſe, for inſtance, is formed of mineral acid and alkali; either of which, ſingly, would be hurtful to the human body; and the acid, in particular, would be extremely pernicious.

If we except the combinations of acids with alkalis and with certain earths, theſe ſubſtances are either totally or partially decompoſed, in all the operations made with them upon metals, vegetables, and animals.

The language of chemiſtry has, neceſſarily, from the diſcoveries made in the ſcience, of later times, acquired a preciſion which it had not heretofore. In order to obſerve a more exact arrangement, and at the ſame to aſſiſt the memory, common terminations have been given to words which denote the combinations of acids with their baſes: thus the carbonic, ſulphuric and nitric acids are expreſſed by the words carbonates, ſulphates and nitrates. The difference in the acids ariſes from the abundance or deficiency of oxygene: in the former caſe, the acids are ſaid to be oxygenated; hence they are called oxygenated carbonates, oxygenated ſulphates, &c. in the latter caſe, or when the acid is weak, the termination of the word, which denotes the acid, ends in *ous*; hence the ſulphureous acid, the nitrous acid, &c. or more briefly the combination is called ſulphite, nitrite, &c.

Carbone and ſulphur, which form the baſes of two acids, that ſeem to have a great influence in the works of creation, as well as in the operations of the laboratory, are accounted elementary or uncompounded ſubſtances.

Carbone, or pure charcoal, exiſts in vegetables; and in animals alſo, but the quantity is ſmall. Carbone is likewiſe in plumbago or black lead, of which it is one of the principles.

Sulphur is formed by the decompoſition of animals and vegetables; it is abundantly contained in coal-mines, and is found in combination with certain metals; it forms the greater part of thoſe pyritous and bituminous

bituminous ſchiſti, which occupy the foci of volcanos, is thrown out by ſubterraneous fires, and found in volcanic diſtricts.

The carbonic acid, or fixed air, is a combination of oxygene and pure charcoal. It is heavier than common air, inſomuch, that it may be poured out of one veſſel into another; and it extinguiſhes lighted candles. It is found in a ſtate of gas, on the ſurface of certain waters, and in various ſubterraneous places. It is this gas which produces the many unhappy accidents at the opening of cellars, where wine, cider, or beer has fermented; and, on the breaking into old coal works. The carbonic acid exiſts alſo in a ſtate of mixture and of combination. Alkalis are rendered mild by a union with it. Chalk, and other calcareous ſubſtances, when deprived of it, form lime. Water imbibes it, receives a ſtrong impregnation, and in this ſtate forms an uſeful drink in ſome diſorders. The agreeable taſte of beer, cider, and wines, and their ſparkling appearance, depend upon the preſence of this gas. In carbonic acid, the charcoal forms rather more than one-ſixth of the compoſition; the reſt is oxygene.

Sulphuric acid is a liquid, and may be congealed by intenſe cold. The ſulphureous acid preſerves it's gaſeous form, at the temperature of the atmoſphere. They are found in grottos, and on lakes, in Italy, in the neighbourhood of volcanos and baths, as well as prepared by art. Sulphuric acid is unctuous to the touch, and hence is called, though improperly, oil of vitriol. It is heavier than water, and produces heat, when mixed with it, to ſuch degree, as to exceed that of boiling water. It ſeizes, with great avidity, all inflammable ſubſtances; and it is blackened and decompoſed by this combination.

The nitric acid, called alſo aqua fortis, is lighter than the ſulphuric. It diſſolves, and ſpeedily corrodes, iron, copper, and other metals; when mixed with oils, it renders them thick and black, and converts them into charcoal, or inflames them. If very concentrated nitric acid, be put into an apothecary's phial, and be poured upon charcoal, in an impalpable powder, and very dry, it takes fire inſtantly. The facility with which this acid is decompoſed, renders it one of the moſt active; and by the digeſtion of it on different ſubſtances, various acids are obtained; ſuch as the oxalic acid, or acid of ſugar, the arſenical acid, &c. Nearly equal parts of the nitrous and oxygene gaſes, form about one-thirteenth part of the nitric acid, and the reſt is water: and the nitrous gas is a combination of nitrogene, with a ſmall portion of oxygene.

Muriatic, or marine acid, called, by artizans, the ſpirit of ſalt, is lighter than the two preceding acids. The oxygenated muriatic acid diſſolves metals without effervescence. It thickens oils, and whitens linen and cotton cloths, and paper. Writing ink diſappears by the action of this acid; but printer's ink is not attacked by it. By ſubſtituting the oxygenated muriate, inſtead of ſaltpetre, in the fabrication of gunpowder, the ſtrength of the compoſition is quadruple. The experiment, which was made in the large way, at Eſſone in France, is but too well known by the death of Le Tors, and the young

woman Chevraud. The powder exploded the moment it was triturated.

The nitro-muriatic is a combination of the nitric and muriatic acids; it has heretofore been called aqua regia, and has the property of diſſolving gold.

The acid of borax is found in the water of certain lakes, and in the mines of Tuſcany; but is generally found combined with ſoda.

The different acids combine with the three alkalis, forming various neutral ſalts, of different uſes in the arts and medicine; hence ariſe the terms of carbonate, ſulphate, nitrate, muriate, or borate of pot-aſh, of ſoda and of ammoniac.

74. *Lithology in Brief.*] The various earths, beneath our feet are, in general, combinations; and chemiſts, by decompoſing theſe ſubſtances, have ſucceeded in obtaining, in the laſt analyſis, principles which they have conſidered as earthy elements. The earthy elements, moſt extenſively diſtributed are five in number, namely, lime, barytes, magneſia, alumine, and ſilex. The adamantine ſpar and jargon of Ceylon are yet too ſlightly known, and too ſcarce to influence the preſent diviſion. Theſe, with the ſtronthiate from Scotland, in addition to the other five, make the primitive earths amount to eight.

The mixtures and combinations, which conſtitute the various kinds of ſtones, ſeem generally to have been formed of the primitive earths. The earths combined with acids form what are called ſaline ſtones; mixed with each other, they form ſtones, properly ſo called, or earthy mixtures; again, theſe ſtones, ſo formed, by the mixture of primitive earths, when united together, or fixed in a gluten or cement, form rocks, pebbles, and compound ſtones, or ſtony admixtures.

1. Lime ſeizes water with great avidity; at the ſame time that it falls into powder, increaſes in bulk, and emits heat. It appears to be infuſible alone, as it has reſiſted the heat of flame urged by a ſtream of vital air. When it is mixed with acids, it forms a fuſible combination; and it haſtens the fuſion of aluminous, ſiliceous, and magneſian earths.

2. Barytes, or ponderous earth, when pure or uncombined, appears to be infuſible alone. It precipitates alkalis from their combinations with acids, and diſſolves with the latter.

3. Magneſia alone is alſo infuſible; when pure, it is not perceptibly ſoluble in water; but when it is combined with the carbonic acid it is ſoluble; and cold water has a ſtronger action on it than hot.

4. Alumine, or pure clay, ſeizes water with avidity, and may then be kneaded; when expoſed to heat, it dries, contracts, ſhrinks, and becomes full of clefts; when it has been well baked, it is no longer capable of uniting with water; but requires to be diſſolved in an acid, and precipitated, in order that it may reſume this property. It is capable of fuſion, approaching to the conſiſtence of paſte, by heat excited by a current of vital air. This transforms it into a kind of very hard ſtone, which cuts glaſs like the precious ſtones, and which very difficultly yields to the file or gives fire with the ſteel.

5. Silex, quartzoſe earth, or vitrifiable earth, exiſt nearly in a ſtate of purity in rock cryſtal. The burning mirror does not fuſe ſilex;

but the application of fire, with a current of vital air, produces a commencement of fuſion on it's ſurface. Alkalis diſſolve it in the dry way, and form glaſs; they attack it likewiſe in the humid way, and are capable of diſſolving one-ſixth part of the weight, when it is in a ſtate of extreme diviſion.

I. The claſs, which comprehends the ſaline ſtones, or the combination of primitive earths with acids, naturally exhibits the five genera of earthy ſalts, with baſes of lime, of barytes, of magneſia, of alumine, and of ſilex.

The earthy ſalts or acids being, as already deſcribed, carbonates, ſulphates, &c. hence ariſe, under theſe genera, the diviſions into the ſpecies of carbonates, ſulphates, fluates, &c. of lime, of barytes, of magneſia, of alumine, and of ſilex.

II. The combinations and mixtures of primitive earths, or earthy mixtures, form ſtones, properly ſo called. If attention were to be paid, in reducing theſe into diviſions, to ſuch ſlight varieties as depend on the proportions of the mixtures, it would be endleſs; the genus, therefore, is deduced from the ſtone or earth, whoſe properties predominate in any mixture, ſo as to communicate moſt of it's character to the whole maſs. Hence, the genera in ſtones are reduced to calcareous, barytic, magneſian, aluminous, and ſiliceous mixtures. The ſpecies and varieties under theſe genera are neceſſarily very numerous, and they are increaſed alſo by the ſaline, metallic, and even bituminous ſubſtances being combined with them.

III. The mixture of ſtones among each other, form pebbles or rocks. Here the genera are eſtabliſhed upon the preſence of ſuch ſtones as predominate; and accordingly are rocks formed by the mixture of calcareous, of barytic, of magneſian, or of aluminous ſtones with others; of quartzoſe ſtones with each other; and ſuper compound ſtones, or ſuch as reſult from the mixture and re-union of ſeveral different genera. The ſpecies are deduced from the variety of ſtones mixed with that which determines the genus.

75. *Enlarged View of Lithology.*] Having glanced in a curſory way at ſome of the leading ſcientific diviſions in lithology, without embarraſſing ourſelves with the minuteneſs of ſyſtem, we may now avail ourſelves a little of the order eſtabliſhed, and juſt notice ſome of the moſt ſtriking objects that occur in our tranſient view.

I. Of ſaline ſtones, thoſe of the calcareous kind ſeem to form the largeſt quantity; and the phenomena they exhibit ſeem particularly intereſting.

1. Calcareous ſtones, when deprived of the carbonic acid, which forms a part of their compoſition, are reduced to lime; and the hardening of mortars appears to be owing merely to the progreſſive regeneration of limeſtone, which is effected in the lapſe of time. This explains to us why the hardeſt ſtones afford the beſt lime; and why the mortar, in the remains of ancient buildings, is found to poſſeſs a degree of hardneſs which modern artiſts have no hopes of attaining. The hardening of mortar may be accelerated, by mixing with it ſubſtances which contain either the carbonic acid, or a principle analogous to it, ſuch as vinegar.

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The formation of calcareous ſtones appears, for the moſt part, to be owing to the wearing down of ſhells. The identity of the conſtituent principles of ſhells and calcareous ſtones, and the preſence of theſe ſame ſhells, more or leſs altered, in the limeſtone mountains, authorize us to conclude, that a great part of the calcareous maſs of our globe, owes its origin to this cauſe only.

Though our imagination appears to aſſent, with difficulty, in referring effects, of ſo wonderfully extenſive a nature, to a cauſe apparently ſo weak, we are compelled to admit it, when we take a ſlight view of the known hiſtory of ſhells, and we may add, of coralline ſubſtances. If we conſider the number of animals which emit this ſtony tranſudation, their ſpeedy augmentation, their multiplication, the ſhort period of their life, and the maſs of ſhell they are continually leaving behind them; we need no longer be ſurpriſed that a conſiderable part of the ſurface of the globe is covered with their remains.

It may eaſily be conceived, that theſe ſhells, when carried along by currents of water, muſt ſtrike together, and be broken and worn down; and that their pulverulent remains, after being long carried about and ſuſpended by the waters, muſt at laſt ſubſide, and form heaps, banks, or ſtrata of ſhells, more or leſs altered according to circumſtances.

Spars and calcareous cryſtals are ſometimes found in the clefts and cavities of calcareous mountains; and generally in all places where waters find acceſs, after having worn down calcareous ſtone to a ſtate of extreme attenuation, nearly correſpondent to ſolution. It is owing to depoſitions of this ſort, that ſubterraneous caves are often found lined with petrifactions or ſtalactites. Theſe grottos ſometimes preſent a moſt grand and beautiful appearance. The extent of the cavern, the loftineſs of it's concave, the multiplicity and variety of figures formed by the ſtalactites, whether hanging from the roof, encruſted on the ſides, or piled on the floor, their reſemblance to other things, the reflection of the light of the torches from the gliſtening objects on every ſide, might impreſs, on the aſtoniſhed imagination, the idea of enchantment and illuſion. The increaſe of ſtalactites being accompliſhed by addition to their external ſurfaces, their texture exhibits concentric coats of different ſhades, accordingly as the water may have been charged with different colouring principles.

At Guancavelica, in Peru, artiſts obtain ſtatues and ſtones for building, by filling their moulds with a lapideous or petrifying water: and in this way baſs-reliefs of alabaſter, as hard as marble, are obtained from the chalky waters of the baths of St. Philip, in Tuſcany.

Few calcareous ſtones bear any regular form or appearance of cryſtallization; they lie almoſt always in ſtrata, or in immenſe blocks, thrown or heaped together on the ſurface of the globe. The notion which we have of the formation of theſe mountains, and the ſtratified diſpoſition of their parts, does not allow us to expect any other appearance than that of the ſettlings of water in horizontal ſtrata, or in banks or beds thrown up by the waves, or in the more irregular diſpoſition they may have been thrown into ſince their formation, by earthquakes, volcanic eruptions, &c. Calcareous ſubſtances vary in their degrees of hardneſs, as well as in other properties, from the limeſtone, alabaſter,

alabaſter, and marble, to the pulverulent chalk and the deliqueſcent marine ſalt, which gives that bitterneſs to the waters of the ſea, which has been improperly preferred to bitumens.

2. Barytes is ponderous, and almoſt always accompanies metallic ores.

3. The combinations of earthy ſalts with magneſia, are ſalts which are in general very ſoluble in water, and applied in medicine: they are found in ſolution in ſeveral mineral waters, and in ſome dry ſituations they are efflorescent, and taken by birds or other animals.

4. The ſubſtance, which in the arts is known by the name of clay, is a natural mixture of ſeveral earths. Alumine, or pure clay, is capable of combining with the greateſt part of the known acids; but the moſt common of theſe ſalts is alum, which is a very valuable material in the arts.

5. Silex is, of all the known earths, that which combines the moſt difficultly with acids.

II. The pure and ſimple earths are rarely found uncombined; beſides their being united with acids, they are conſtantly mixed with each other, and form maſſes of greater or leſs magnitude, and various hardneſs, according to the nature of the earths, their ſtate of diviſion, and the character of the foreign ſubſtances which are combined with them, ſuch as iron, bitumens, &c.

1. In calcareous mixtures, the limeſtone combines with all the other earths, and alſo with bitumen and iron: mixed with clay it forms marle. In ſome parts of France bitumen abounds ſo much in limeſtone, as to diſtil through the clefts of the rocks, and form ſtalacticitous bitumen, which the country people collect, to mark their ſheep or to greaſe their cart-wheels; and in the heat of ſummer it flows into the roads, and impedes the motion of the carriages.

2. Barytic mixtures are very rare, becauſe the ſtone itſelf is ſcarce.

3. Magneſian mixtures may be cut with a knife, or turned in a lathe, and take a tolerable poliſh. They ſtick to the tongue like clays; but do not, like them, ſoften in the water. Some of them are diſpoſed into fibres; and theſe fibres poſſeſs, for the moſt part, a remarkable degree of flexibility: of this kind is amianthus; the flexibility of which is ſuch, that the ancients conſtructed cloths of it, in which they burned the bodies of the dead. The cloth withſtood the fire, and thus the aſhes of the dead were collected for the urn without the mixture of thoſe of the fuel.

4. Aluminous, or argillaceous mixtures, or clay, are diviſible in water; and of theſe are formed all the varieties in pottery and porcelain. The ſlate, or ſchiſtus, is an argillaceous ſtone, whoſe principle character is that of being diviſible into very thin plates, capable of being wrought and of receiving a certain poliſh. Pyrites, or ſulphur of iron, and bitumen ſometimes enter into their compoſition. The mountains which afford theſe ſchiſti, appear to be marine depoſitions. Impreſſions of leaves, of fiſhes, and other characters, are frequently obſerved, which leaves little doubt of their origin. When their decompoſition is favoured by air or water, a prodigious heat is excited, hydrogenous gas or inflammable air is produced, which exerts itſelf

againſt the ſurrounding obſtacles, and takes fire when it comes in contact with the air. It is this inteſtine labour, which occaſions the ſhocks and tremulous agitations that precede the eruptions of volcanos.

Pit-coals do not differ from thoſe ſchiſti but in their greater abundance of bituminous principle: ſpontaneous inflammation takes place in heaps of pyritous coal, and the ſame effect happens even in the midſt of the veins which are wrought.

When the earthy and metallic principles, which form the baſis of bituminous ſchiſti are ſtrongly heated, and almoſt vitrified by the fire which produces their decompoſition, they conſtitute volcanic productions.

5. Silicious mixtures include the ſtones which give fire with the ſteel. Of this kind are the precious ſtones, which are divided into Red Gems—the Ruby, Garnet, &c. Yellow Gems—the Topaz, Hyacinth, &c. Green Gems—the Emerald, Chryſolite, Beryl, &c. Blue Gems—the Sapphire. Of this kind alſo are the rock cryſtals, which ſeem to have a ſimilar origin with the calcareous ſpars. They are formed whenever their principles, in a ſtate of extreme diviſion and attenuation, are ſuſpended by water, and depoſited with all the circumſtances which are required, in order that cryſtallization may take place. The cryſtals alſo, as well as the gems, are of different colours.

Thoſe ſilicious ſubſtances, in which no regular form appears, are comprehended under the name of Quartz, and poſſeſs various degrees of tranſparency. Quartz ſeems to exhibit more varieties and ſhades of colour than rock cryſtal itſelf. It ſeldom forms entire mountains, but almoſt always interſects, by veins, more or leſs wide, the mountains of primitive ſchiſtus. The blocks of quartz, detached by waters, are rolled, rounded and depoſited in the form of large ſtones, on the banks of rivers: the ſame ſtones, more attenuated, form the quartzoſe pebbles; and theſe, ſtill more divided, produce ſand. This ſand forms an excellent mortar with good lime; and, when fuſed with alkalis, it produces a very beautiful glaſs.

The ſtate of fineneſs in the conſtituent principles of flints, and their more or leſs intimate mixture or amalgamation cauſe them to be divided into coarſer and finer flints. The firſt form gun-flints, petroſilex, &c. the ſecond comprehend agates, calcedonies, &c. The ſilex, or flint, properly ſo called, is ſemi-tranſparent when very thin; the petroſilex differs from it, in being more opaque: it is interſperſed in veins through rocks; and from this circumſtance it derives it's name.

The agate takes a moſt beautiful poliſh; it's varieties are innumerable, and they are diſtinguiſhed into clouded, punctuated, ſpotted, iriſed, herboriſed, moſſy, &c. The name of onyx is given to that kind of agate, which is formed by concentric bands. The opals have received various names, according to the colours they reflect. The chatoyant ſtones, or ſuch as vary their colour, according to the poſition of the light, and the eye of the obſerver, are varieties of the opal. Calcedony is of a milk whiteneſs, and has often a ſhade of blue, yellow or red; but does not poſſeſs the chatoyant property, or

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the changeableneſs of colour. The white and opaque calcedony, is known by the name of cacholong: the hydrophanes, which becomes tranſparent in water, is a modification of it. The cornelian is a ſpecies of agate, nearly tranſparent, and of a fleſh colour. The ſardonyx is ſemi-tranſparent, and of an orange colour.

Jaſper is one of the hardeſt ſtones we are acquainted with. It is ſuſceptible of the fineſt poliſh; and from it's variety of colour, receives the name of ſanguine, green, flowered, jaſper, &c.

The ſchorles nearly approach the jaſper in it's external characters. There are few ſtones which exhibit a greater variety of form or colour. The ſchorles are cryſtallized, or irregularly ſhaped; their colours are black, green, violet, or white. Tourmaline is a variety of the ſchorle.

The volcanic products are alſo ſilicious mixtures, and may be converted by fire, into a moſt beautiful black glaſs; theſe are baſaltes, lava, and terra pozzolana. Theſe ſubſtances are of the ſame nature: they are called baſaltes, when their form is regular; lavas, when they have no determinate figure, and terra pozzolana, when they are conſiderably attenuated. Baſaltes is diſtinguiſhed into the priſmatic baſaltes, the baſaltes in tables, and the ſpherical baſaltes. Lava is diſtinguiſhed into compact lava, porous lava, twiſted lava, lava in tears, &c.

Lapis lazuli, when reduced to powder, forms the valuable colour, known by the name of ultramarine.

Feld ſpar very frequently forms one of the principles of granite, and the cryſtals, which are found ſeparate, ariſe from the decompoſition of this primitive rock.

III. Rocks, pebbles, or ſtony mixtures, appear to have been produced, either by revolutions, which have reverſed and confounded the whole ſurface of countries; or by the action of waters, which have ſucceſſively formed the ſtrata of rounded flints, ſpread over the ſurface of the globe, and have afterwards depoſited, in their interſtices, that earthy matter, which has connected them together. Theſe mixtures have afterwards acquired a degree of hardneſs; and at length appeared to form one ſingle ſubſtance.

1. Though the baſis of calcareous ſtones enters into the compoſition of the greater part of lithologic ſubſtances, there are few rocks which can be ranged in this claſs.

2. Ponderous ſpar is of conſiderable ſcarcity, and is almoſt always found alone.

3. The various known magneſian ſtones, are often exhibited in contact with each other, in the ſame rock.

4. Rocks, formed by the mixture of aluminous ſtones with others, forming various granites, form ſeveral primitive mountains. They furniſh miliſtones, grindſtones, ſtones for filtering, and other purpoſes.

5. Compounds of ſilicious ſtones, form great part of the granites of our globe. Pebbles of quartz, enveloped in petroſilex, form the the plum-pudding ſtones; ſome of theſe are ſo compact, that they are capable of the fineſt poliſh, and produce a beautiful effect by the variety of colour, of the ſeveral flints, connected in the ſame gluten.

Porphyry is compoſed of jaſper and feld ſpar. The jaſper compoſe

poſes the ground, and is green, black or red; the ſpar is interſperſed in ſmall needles, or in flat parallelopipedons, which are white, yellowiſh or red. As this ſtone is ſuſceptible of the moſt beautiful poliſh, it has been employed as an ornament both in public and private buildings.

The diamond was long conſidered as the hardeſt and moſt ponderous of ſtones, as well as the only one, which did not cauſe a double refraction; but ſubſequent obſervations have deſtroyed theſe early notions. The adamantine ſpar appears to equal it in hardneſs; the the oriental ruby, and jargon of Ceylon, are more ponderous, and the oriental precious ſtones exhibit one refraction only, as does likewiſe the phoſphoric ſpar.

The earth, which ſerves the diamond as it's gangue, or incloſes it, is red, ochreous, and ſoils the fingers. The diamond is divided into two kinds, the Oriental, and the Brazilian: the latter cryſtallizes in dodecaedrons; the Oriental diamond is in the greateſt eſtimation, and is found on the coaſt of Coromandel, principally in the kingdoms of Golconda and Viſapour; it cryſtallizes in octahedrons, and exhibits all the varieties of this primitive form.

The manner or form in which diamonds are cut, diſtinguiſhes them into roſe diamonds and brilliants. The variety of form given to theſe facets, and their different inclinations with reſpect to each other, multiply the refractions, and contribute to afford thoſe reflections, and ſtreams of pure and vivid light, which characterize the diamond.

The diamond is ſometimes coloured green, black, &c. The green are the moſt eſteemed, becauſe they are the moſt ſcarce. The weight of the coloured diamond is more conſiderable than than that of the white diamond; becauſe it is augmented by the ſuperior weight of the colouring principle, which is of a metallic nature, A diamond is ſaid to be of a fine water, when it preſents no defect or ſpot: and the price is proportioned to it's purity That which at preſent belongs to the Czarina, weighs 779 carats. She purchaſed it in 1772, for 12 tons of gold (100,000 florins) and granted a penſion of 4000 roubles to the ſeller.

Combuſtibility is a character in the diamond, which prevents it's being aſſimilated to any known ſpecies. The jewellers, who expoſe their diamonds to very violent fires, to render them colourleſs, are careful to wrap them up in ſuch a manner, as to ſecure them from the contact of the air, as they would otherwiſe dilate, ſwell up, and paſs off in a blue flame.

76. *Mineralogy.*] Metallic ſubſtances are diſtinguiſhed from all the other productions of our globe, by their ſuperior brilliancy and ſpecific gravity, and by their opacity.

The moſt opaque ſtone, divided into very thin laminæ, becomes tranſparent. Gold-leaf, it is true, when reduced to the two hundred and eighty thouſandth part of an inch in thickneſs, tranſmits light of a beautiful green colour; and, if the other metals were rendered equally thin, they might be found equally tranſparent: but very thin plates of metal preſerve the ſame opacity as the maſs itſelf. This property has induced artiſts to employ metals to reflect the images of objects

objects. A thin covering of tin and mercury, fixed on the ſurface of a glaſs, forms a mirror or looking-glaſs; and poliſhed metal conſtitutes the mirrors of teleſcopes.

Metals are generally concealed in the bowels of the earth, combined with other ſubſtances; which, by maſking or changing the metallic properties, require the ingenuity or induſtry of man to extract them, clear them of their original combinations, and give them the valuable qualities, which are peculiar to metals. The metals, thus buried and concealed, form ores. Theſe ores uſually exiſt in clefts or crevices of rocks, which are diſtinguiſhed by the name of veins; but when the ore is found in ſpherical parts or maſſes, from ſpace to ſpace, theſe maſſes are called bellies or ſtock-works.

The characters, from which mineralogiſts pretend to aſſert the exiſtence of an ore, in the bowels of the earth, are all equivocal and ſuſpicious. The ſavage aſpect of a mountain, the nature of the plants which grow upon it, the exhalations which ariſe from the earth, all afford but doubtful characters; and the dipping wand, or divining-rod, is the fruit of ſuperſtition and ignorance.

The nature of the ſtones, which compoſe a mountain, is capable of furniſhing ſome indications. Ores are ſeldom found in granite, and other primitive mountains; mountains of too modern a formation contain them very rarely; and they are only found in ſecondary mountains, in which the ſchiſtus and ancient calcareous ſtone are void of all impreſſions of ſhells. The preſence of ponderous ſpar, forming a ſtratum or vein at the ſurface of the earth, has been conſidered by ſeveral mineralogiſts as a good indication.

It frequently happens, that the veins are naked or uncovered: the mixture of ſtones and metals, forms a kind of cement, which reſiſts the deſtructive action of time, longer than the reſt of the mountain; and as theſe parts of rocks, connected by a metallic cement, preſent a ſtronger reſiſtance to the action of waters, which inceſſantly wear down the mountains, and carry away their parts into the lower grounds, or to the ſea, veins are frequently obſervable, projecting on the ſides of mountains, incruſted with ſome ſlight metallic impreſſion, altered by the lapſe of time.

Sulphur and arſenic, mixed with the metals, are called mineralizers. The metals are generally mixed with ſtony ſubſtances, which are called gangue, on which account, the mineral is cruſhed and pulverized, and a ſtream of water made to paſs over it, which carries away both the metallic and ſtony particles; the former being depoſited in the firſt veſſels through which the water is made to circulate, while the latter, or ſtony part, is carried to a greater diſtance, on account of it's lightneſs.

The calcination of the mineral ſucceeds the waſhing. In this operation, the mineralizer is carried off. Fire is always the agent made uſe of. When the mineral is once cleared of it's gangue, it's mineralizer, and all other foreign matter, it conſtitutes what is called a metal or regulus. Every metal is fuſed, and even volatilized, at a certain degree of heat, more or leſs intenſe.

Moſt metals, kept in a ſtate of fuſion, loſe their metallic brilliancy, and become converted into an opaque powder, called oxide or metallic calx.

calx. The oxides, when urged by a ſtronger heat, are reduced into a vitriform ſubſtance, known by the name of metallic glaſs. Metals acquire weight in their tranſition to the ſtate of oxide, by the abſorption of oxygene.

Metals may be diſtinguiſhed into ſuch as are ductile, and ſuch as do not poſſeſs this property. The name of metal has been peculiarly applied to the former, and that of ſemi-metal to the latter kind. Among the metals, there are ſome, which are changeable by expoſure to the air, theſe are called imperfect metals; while others, not ſenſibly altered in the ſame ſituation, are called perfect metals.

77. *Semi-Metals.*] The ſemi-metals, for the moſt part, approach to the ſaline or ſtony ſubſtances in their qualities: the others poſſeſs the metallic qualities in a higher degree.

Arſenic, cobalt, nickel, biſmuth, antimony, zinc, and manganeſe, are called ſemi-metals. Tungſten, wolfram, and molybdena, are alſo metallic ſubſtances. Lead, tin, iron, copper, mercury, ſilver, gold, and platina, are metals: the laſt three, are called perfect metals; they ſuffer no change by fuſion, or the longeſt continued heat.

Arſenic is moſt commonly met with, under the form of a metallic oxide, of a glittering whiteneſs, ſometimes of a vitreous appearance. It unites by fuſion with moſt of the metals; but thoſe which were ductile before this addition, become brittle afterwards; thoſe which are of difficult fuſion alone, flow more eaſily; thoſe which are very fuſible, become refractory; and the yellow or red metals become white by this alloy.

The oxide of arſenic, is capable of combining with ſulphur, and the reſult is orpiment: or, if expoſed to a ſtrong heat, it forms realgar. Orpiment is leſs ſcarce than realgar, and both are found native in certain places, as in the waters of volcanos. Realgar is common in China; it is made into vaſes, pagods, and ornamental works. The Indians prepare a purgative medicine, by leaving vinegar or lemon juice for ſeveral hours in theſe veſſels. Arſenic is uſed by dyers and painters, and in melting of glaſs and metals. It is very frequently met with in mines, and being very volatile, it forms a duſt, which affects and deſtroys the lungs; and the unhappy workmen die, after a languiſhing life of a few years.

Cobalt is of a light grey colour, compact and brittle, and is not eaſily fuſed or volatilized. It reſiſts cupellation, and does not amalgamate with mercury. The working of cobalt ores is very ſimple. It conſiſts in roaſting the ore, in a reverberatory furnace, terminating in a long chimney, into which the vapours are received. Theſe vapours or arſenical fumes, attach themſelves to the ſides, and form a cruſt, which is cleared off by criminals, who are condemned to this work for crimes, for which they would otherwiſe have ſuffered death. How long will man dare to touch, with ſacrilegious hand, the life of his fellow! Impious alike are the wearing it down, by methods deſtructive of health, eaſe, and comfort, and the cutting it off at once. The cobalt ores of Saxony, chiefly afford the arſenic of commerce. When the oxide of cobalt is cleared of arſenic, it is known by the name

name of zaffer, which being fuſed with ſand and potaſh, forms a blue glaſs, which, when pounded, ſifted, and afterwards ground in mills, forms ſmalt.

Smalts are uſed in the preparation of cloths, laces, linens, muſlins, threads, &c. Cobalt is likewiſe employed in forming blue paintings on fayence, porcelain, and other potteries; cryſtals and glaſſes are coloured blue by this ſubſtance: and it is alſo uſed in painting in freſco.

Nickel is moſtly combined with arſenic, iron, and other ſubſtances.

Biſmuth or tin-glaſs is of a ſhining yellowiſh white colour, diſpoſed in plates and chatoyant. From it's property of amalgamating completely with mercury, it may be applied with advantage in the ſilvering of glaſſes. It unites with other metals, and gives a greater degree of hardneſs and brilliancy to tin.

Antimony enters into the compoſition of printer's types; and is likewiſe mixed with tin, to increaſe it's hardneſs. There are various preparations of antimony made uſe of, with great effect in medicine.

Zinc is of a blueiſh, brilliant, white colour, very difficultly reducible into powder, but capable of being extended into very thin plates, by the equal and gradual preſſure of the flatting mill: theſe plates or leaves, when very thin, take fire by the flame of a taper, and burn, with a blue colour, mixed with green. The ore of zinc, called ſalamine, unites with tin and copper, and forms bronze; when combined with copper alone, it forms braſs. Sublimations of zinc are uſed in medicine.

Manganeſe is found in various ſituations in the earth, in ores, ſtones, and the aſhes of vegetables. It is more infuſible than iron, but unites eaſily with all the metals, except pure mercury. It is moſtly in the ſtate of oxide, and is chiefly uſed in glaſs-houſes, to deprive glaſs of it's green or yellow colour, and hence it has received the name of ſoap of the glaſs-makers: it is alſo uſed, ſince the diſcovery of the oxygenate muriatic acid in bleaching of linen, cotton, &c.

Tungſten and wolfram are two minerals, which have been both diſtinguiſhed under the generic title of tungſten. The affinities of the tungſtic acid, are nearly the ſame, with thoſe of the arſenical acid.

Molybdena is a pirytous ore, and has a great reſemblance, in it's chemical reſults, to antimony, affording, like that ſemi-metal, an argentine oxide, capable of vitrification.

That beautiful law in creation, whereby the different unorganized productions, are impreſſed with regular forms, doth not ceaſe to exiſt under the hands of man in his various experiments. He finds the ores of metals, as well as other foſſile ſubſtances, under determinate forms, or geometrical figures of different kinds; and when by art, he reduces them to a regulus or metallic form, the ſame diſpoſition ſtill manifeſts itſelf. If, when the ſurface of a melted metal begins to congeal, the part beneath, yet in a ſtate of fluidity, be drawn off, the under part of the cruſt of metal, will exhibit regular cryſtalline forms. The

breaking

breaking of a metal alſo ſhews its grain, or the regular diſpoſition of it's particles, into cryſtals, or determinate forms.

78. *Malleable Metals.*] Lead is the ſofteſt, the leaſt tenacious, the leaſt ſonorous, the leaſt elaſtic, and one of the moſt ponderous of metals, being heavier than ſilver. It is uſually mineralized by ſulphur; and this ore is known by the name of galena, and diſtinguiſhed into ſmall diced, large diced, ſcaly or plated, and compact galena, which is in ſmall brilliant grains, reſembling ſteel. In general, the large diced galena is poor in ſilver, and is uſed to give a glaze to pottery, by the name of alquifoux, or potter's lead ore; that which is in ſmall grains is richer, and is wrought as a lead ore containing ſilver.

Lead melts long before it is red hot, and then calcines, if it be in contact with reſpirable air. In the progreſs of calcination, it firſt becomes a duſky grey powder, then yellow, when it is called maſſicot; then, by imbibing pure air, it becomes red, and is called minium, or red lead. In a greater degree of heat, it becomes maſſicot again, having parted with it's pure air. If the heat be too great, and applied rapidly, it becomes a flaky ſubſtance, called litharge, and with more heat, it becomes a glaſs, which readily unites with metallic calces and earths, and is a principal ingredient in the manufacture of flint glaſs.

All acids act upon lead, and form with it different ſaline ſubſtances. White lead conſiſts of it's union with vinegar and pure air. Sugar of lead, is the ſolution of it in vinegar, cryſtallized; and like the other preparations of it, is a deadly poiſon.

Tin is very ſoft, and the lighteſt, and moſt eaſily melted of any of the entire metals. By the continuance of heat, it is ſlowly converted into a white powder or putty. The putty of tin is uſed to poliſh hard bodies, and to render glaſs opaque, which converts it into enamel.

Tin is uſed in coating iron and copper-plates, and in ſilvering looking glaſſes, beſides being caſt into a variety of forms, when it is called block-tin. Alloyed with copper, it forms bronze, or bell-metal; one part of tin, and two of lead, make a ſolder, which melts with leſs heat, than either of the metals ſeparately; and a compoſition of three parts of tin, five of lead, and eight of biſmuth, forms a metal, which melts in boiling water.

Tin is the principal ingredient in the compoſition of pewter. Pewter may be diſtinguiſhed under three kinds; namely, plate-metal, triſling, and ley. The firſt is a compoſition of tin and regulus of antimony. Triſling may be compoſed of plate-metal and lead; and by the further addition of lead, triſling may be reduced to ley.

As tin is the lighteſt of all metals, the finer that pewter is, the lighter the metal: while gold, on the contrary, it is well known, is fine in proportion to it's ſpecific gravity, this being the denſeſt of all metals, and conſequently heavier than any other with which it may be alloyed.

Iron is the moſt generally diffuſed metal in nature. Almoſt every mineral ſubſtance of this globe is coloured with it; and its various alterations produce that truly aſtoniſhing variety of colours which are comprehended between the blue and the deepeſt red. It likewiſe exiſts in the animal and vegetable departments. Thoſe places or ma-

trices

trices, in which the iron is ſufficiently abundant to be wrought with profit, are called Iron Mines, or Ores.

The firſt product, in fuſing iron ore, is called caſt or Crude Iron. It is brittle, but may be rendered ductile, by heating it again and hammering it. For this purpoſe the pig-iron is fuſed again, and ſtirred while in the ſtate of fuſion: after which it is carried to the forge hammer. By this treatment the iron becomes ductile, aſſumes a fibrous texture, and is formed into ſquare or flat bars. The iron, thus rendered malleable, is converted into ſteel, by being kept at a red heat in charcoal, or coaly ſubſtances. Steel heated in contact with earthy matters, is reduced to iron; the earthy matters, taking off the charcoal, which had before penetrated and combined with it's ſubſtance.

Iron, when combined with ſulphur, forms pyrites: and plumbago or black lead, is a true charcoal, combined with a baſis of iron.

The uſes of iron are ſo very extenſive, that there are few arts which can be practiſed without it. Some of it's ores are uſed in their native ſtate; ſuch as the hæmatites, which is made into burniſhers. The ſulphate of iron is the baſis of black colours, inks, &c. The ochres are uſed by painters under the name of umber; and Pruſſian blue is obtained from iron. It likewiſe furniſhes the art of medicine with remedies.

Copper is a metal of a reddiſh or browniſh colour, conſiderably ſonorous and very malleable. At a heat, far below ignition, the ſurface of copper becomes covered with a range of priſmatic colours, the commencement of it's calcination, with more heat, a black ſcale is formed, which eaſily ſeparates from the metal, and in a ſtrong heat it melts, and burns with a bluiſh green flame. The vegetable acids diſſolve copper as well as the mineral ones, which makes the uſe of this metal for culinary purpoſes dangerous. The ſolution of copper in the vegetable acid is called verdigriſe. Blue copperas is formed of copper; green copperas, of iron diſſolved in the vitriolic acid.

Mercury is the moſt fuſible of all the metals; but by intenſe cold it becomes ſolid, and it is then malleable. It is heavier than any other metal except gold or platina. It is volatile in a temperature much lower than that of boiling water; and in vacuo, in the common temperature of the atmoſphere. This metal is extremely ſuſceptible of change, becoming, under different degrees of heat, alternately calx of precipitate and metal.

Mercury combines readily with ſulphur by trituration, and with it forms a black powder called Ethiops mineral. A more intimate combination of mercury and ſulphur is made by means of fire. This is called cinnabar, about one third of which is ſulphur. Vermilion is cinnabar reduced to powder. Mercury readily combines with moſt of the metals; and it is applied medicinally with great effect.

Silver is the whiteſt of all the metals, very ductile, but leſs ſo than gold, the thinneſt leaves of it being one third thicker than thoſe of gold. Gold is the heavieſt of all metallic bodies except platina. It appears yellow or reddiſh, by reflected light, but green or blue by tranſmitted light, when it is rendered extremely thin.

Platina is a metal, lately diſcovered in the gold mines of Mexico.

It

It is the heavieſt body in nature. It is very malleable, though conſiderably harder than gold or ſilver, and, in common with iron, has the property of welding. It unites with various metals and with copper it forms a compound, which takes a beautiful poliſh, not liable to tarniſh, and which is therefore uſed with advantage for mirrors of reflecting teleſcopes.

SECTION VII.

Of the Vegetable Department, including the Structure, Nutrition, and Products of Plants; the Origin of Coal-mines, and Volcanos; and the Fructification, Propagation, and Unfolding of Plants.

Notwithſtanding the diſpoſition of unorganized ſubſtances to put on regular forms, and in ſome inſtances, the appearance of incipient vegetation, the line which divides the mineral and vegetable departments from each other, ſeems to be very diſtinctly marked.

79. *Structure of Plants.*] The mineral poſſeſſes no evident life, no period which may be conſidered as the term of it's perfection; becauſe it's various ſtates are always relative to the purpoſes to which we intend to apply it. It does not appear either to grow, or to be reproduced; at moſt, it changes it's form, but never by any internal determination; this is always the mere phyſical effect of the action of external objects, and entirely ſubject to the law of affinities, which is the law of bodies void of life.

On the contrary, the organization of vegetable and animal bodies, diſpoſes them in ſuch a manner, as is ſuited to accompliſh their temporary ſubſiſtence, and the reproduction of their ſpecies. Living plants are endowed with a principle of irritability, which ſeems to develope in them both ſenſation and motion: in ſome, the motion is ſo evident, that it may be produced at pleaſure, as in the ſenſitive plant, the ſtamina of the opuntia, &c. The plants, which follow the courſe of the ſun, which in hot-houſes, incline towards the apertures, that admit the light, which contract and ſhut up by the puncture of an inſect, and thoſe, whoſe roots, turn out of their direct or original courſe, to plunge themſelves into a favourable ſoil or water, or to arrange themſelves in the beſt manner, to bear up the plant againſt the prevailing winds, ſeem all to exhibit a degree of ſenſation of touch ſomewhat ſimilar to the ſenſibility of animals. Their reproduction ſeems alſo to be effected in the ſame manner; that is, by a ſeed or egg duly impregnated; like them, they droop under inclemencies, and are liable to a variety of diſorders; like them, look well, when in health, and well fed; like them, are tender and feeble in the beginning, gradually ariſe into vigour and beauty, occaſionally need the knife, the plaiſter, and the proper kind of nouriſhment; and like them, in age, they totter, and fall to their native duſt. Some have carried the ſimilitude ſo far, as to ſay, that plants ſleep, when their leaves are ſhut up,

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and that young ones, like children, require more ſleep, than thoſe which are of riper years. Vegetables are nouriſhed with air, though the kind which they require is not the ſame with that which ſupports the higher orders of animals.

Every vegetable exhibits in it's ſtructure, 1. A fibrous and hard mechaniſm, which ſupports all the other organs, determines the direction, and gives the proper ſolidity to the ſeveral plants and their parts. 2. A cellular tiſſue, which accompanies all the veſſels, envelopes all the fibres, contorts itſelf in a thouſand ways, and every where forms coverings and a net-work, which connect all the parts, and eſtabliſh an admirable communication between them.

The bark is the external covering of plants, and is compoſed of three particular tunics, which may be ſeparately detached and obſerved: theſe are the epidermus, the cellular tiſſue, and the cortical coatings.

1. The epidermis is a thin membrane, formed of fibres, that croſs each other in every direction; when deſtroyed, it grows again, but it is then more ſtrictly adherent to the reſt of the bark, ſo as to form a kind of cicatrice.

2. The cellular coating forms the ſecond part of the bark. It's texture conſiſts of veſicles and utricles, ſo very numerous, and ſo cloſe together, as to form a continued coating. It is among theſe glands, that the work of digeſtion appears to be performed, and the product of this elaboration is afterwards conveyed through the whole vegetable, by veſſels propagated through all it's parts and communications, even to the medullary ſubſtance or pith, by conduits that paſs through the body of the tree, croſſing the ligneous ſtrata. In this net-work it is, that the colouring matter of vegetable is developed: the light, which penetrates the epidermis, concurs in enlivening the colour: here likewiſe it is, that oils and reſins are formed, by the decompoſition of water, and the carbonic acid: and laſtly, it is from this reticular ſubſtance, that thoſe various products of the organization are thrown off, or excluded, which may be conſidered as the fæces of the vegetable digeſtion.

3. The coatings, which lie between the external covering and the wood or body of the vegetable, and may be called the cortical coatings, are formed of laminæ, which themſelves conſiſt of the re-union of the common, proper, and air veſſels of the plant. The veſſels are not extended lengthwiſe along the ſtem, but are curved in various directions; and leave openings, or meſhes, between them, which are filled by the cellular matter itſelf. In proportion as theſe coatings approach the ligneous body, they become hard; and, at length form the external ſofter part of the wood, which workmen call the ſap.

The bark is accounted the moſt eſſential part of the vegetable, by means of which the principal functions of life, ſuch as nutrition, digeſtion, the ſecretions, &c. are performed. All plants, and particularly thoſe which are hollow within, and whoſe products are totally changed, by covering them with a different bark, prove evidently, that the digeſtive force eminently reſides in this part. The ligneous part is ſo far from being eſſential, that many plants are without it;

ſuch as the gramineous and the arundinaceous, and all plants that are hollow within. Graſſes, properly ſpeaking, have only the cortical part: and plants, internally decayed, are only kept in vigour by the good ſtate of their bark.

80. *Ligneous Texture, Veſſels and Glands.*] Beneath the bark there is a ſolid ſubſtance, which forms the trunk of trees, and appears to be uſually compoſed of concentric layers. The interior coatings, or rings, are harder than the exterior; they are older, and of a more firm and cloſe grain. The hardeſt of theſe form the wood, properly ſo called, while the ſofter external rings conſtitute the ſap. We may conſider wood, as being formed of fibres, more or leſs longitudinal, connected together by a cellular tiſſue, interſperſed with veſicles communicating with each other; which diminiſh gradually towards the centre, where they form the pith. The pith is a ſubſtance ſimilar to the bark; it is found only in young branches or plants, and diſappears in plants of a certain age.

The veſicular tiſſue bears a great analogy with the glandular and lymphatic veſſels of the human body: in both, the conformation and uſes are much the ſame. In the early age of plants and animals, the organs have a conſiderable expanſion, becauſe the increaſe of the individual is very rapid at that period; but, as age advances, the veſſels become obliterated in both.

The various humours of vegetables are contained in certain appropriated veſſels, in which they have a degree of motion, which has been compared to the circulation in animals: but it is more under the influence of external agents than the latter. Light and heat very much determine and modify the motion of the fluids in vegetables; they cauſe the ſap to riſe into the various parts, where it is elaborated in a manner correſpondent to the functions of each; but it is not obſerved that it returns; ſo that the acceſſion, or flux, in vegetables is proved, but the reflux does not appear to be perceptible.

Three kinds of veſſels may be diſtinguiſhed in vegetables: the common, or ſap veſſels, the proper veſſels, and the air veſſels, or tracheæ.

1. The ſap veſſels convey the ſap, or general humour, from which all the others are derived. This liquor may be compared to the blood in animals; from it the ſeveral organs extract the different juices, and elaborate them in a proper manner. The ſap veſſels chiefly occupy the middle of plants and trees. They riſe perpendicularly, though with deflections ſideways, ſo as to communicate with all the parts of the vegetable. They convey the ſap into the utricles, whence it is taken by the proper veſſels, in order that it may be duly elaborated.

2. Each organ is likewiſe provided with peculiar veſſels to ſeparate the various juices, and to preſerve them, without ſuffering them to mix with the general maſs of humours. Thus the ſame vegetable, and frequently the ſame organ, contains juices of different natures, and greatly differing in colour and conſiſtence.

The veſſels, whether common or proper, are retained in their ſeveral directions by the ligneous fibres; they are every where ſurrounded by the cellular tiſſue; they open and pour their fluid into the glands,

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into the cellular tiſſue, and into the utricles, to anſwer the various functions.

The utricles are ſmall veſſels, or repoſitories, which contain the pith, and frequently the colouring matter. They form a kind of reſervoir, in which the nutritive juice of the plant is preſerved, and whence it is taken, on occaſion, as marrow, collected in the internal part of the bones, is extracted, when the animal is not ſufficiently ſupplied with nutriment.

3. The tracheæ, or air veſſels, appear to be the organs of reſpiration, or rather thoſe which receive the air, and facilitate it's abſorption and decompoſition. They are called tracheæ, on account of the reſemblance which is thought to exiſt between them and the reſpiratory organs of inſects. It is generally ſuppoſed, that the large pores, which are perceived in the tranſverſe ſection of a plant, viewed in the microſcope, are alſo air veſſels.

The ſmall protuberances, obſerved upon various parts of vegetables, are glandular bodies: they are of various forms, and are almoſt always filled with a humour whoſe colour and nature are very much varied.

81. *Nutrition of Vegetables.*] If plants were to perform no other act than that of pumping the nutritive principles they contain out of the earth; if they did not poſſeſs the faculty of digeſting, aſſimilating them, and forming different products, according to their nature and the diverſity of their organs; it would follow, as a conſequence, that we ought to find in the earth all thoſe principles which analyſis exhibits to us in vegetables. If it were true that plants did nothing but extract their component parts out of the earth, thoſe plants which grow on the ſame ſoil would poſſeſs the ſame principles; or at leaſt the analogy between them would be very great; whereas we find plants of very different virtues and flavours grow and flouriſh beſide each other. The plants which are raiſed in pure water, the fat plants which grow without being fixed to the earth, provided they be placed in a moiſt atmoſphere, and the paraſitical plants, which do not partake of the properties of thoſe which ſerve to ſupport them, all prove that a vegetable does not derive it's juices from the earth, on account of it's being earth; but that it poſſeſſes an internal, alterative, and aſſimilating power which appropriates to each individual the aliment which is ſuitable to it, at the ſame time that it diſpoſes and combines that aliment to form certain peculiar principles.

Every one knows that a plant cannot vegetate without the aſſiſtance of water: but it is not ſo generally known that this is the aliment which the root draws from the earth; and that a plant can live and propagate itſelf without any other aſſiſtance than the contact of water and air.

All plants do not demand the ſame quantity of water; and the organs of the ſeveral individuals are varied conformably to the neceſſity of their being ſupplied with this food. Plants, which tranſpire little, ſuch as the moſſes, the lichens, have no need of a conſiderable quantity of this fluid; and accordingly they are fixed upon dry rocks, and have ſcarcely any roots: but plants which require a larger quantity have roots which extend to a great diſtance, and abſorb humidity

throughout their whole ſurface. The leaves of plants have likewiſe the property of abſorbing water, and of extracting from the atmoſphere, the ſame principle, which the root draws from the earth. But plants, which live in the water, and, as it were, ſwim in the element, which ſerves them for food, have no need of roots; they receive the fluid at all their pores; and, accordingly, many of them have no roots whatever.

Pure water is generally more proper for vegetation, than water charged with ſalts; but if it be loaded with principles diſengaged by fermentation or putrefaction, the plant then receives juices already aſſimilated to it's nature, and theſe prepared aliments muſt haſten it's growth. Independent of thoſe juices, already formed, the nitrogene gas, which conſtitutes one of the nutritious principles of plants, and is abundantly afforded by the alteration of vegetables and animals, muſt facilitate their developement. A plant, ſupported by the remains of vegetables and animals, is in the ſame ſituation as an animal fed on milk only; it's organs have leſs difficulty in elaborating this drink, than that which has not yet been animalized.

Although it be well proved, that pure water is ſufficient for the ſupport of plants, we muſt not conſider the earth as of no uſe. It reſembles, and has a ſimilar utility with, the various reſervoirs, which are placed in the body of man, to preſerve the ſeveral humours, and emit them upon occaſion. The earth imbibes, and retains water: it is the reſervoir appointed to preſerve the elementary juice, which the plant continually requires; and, to furniſh that fluid, in proportion to it's wants, without expoſing it to the equally deſtructive alternatives, of being either inundated or dried up. On this account, the nature of the ſoil cannot be a matter of indifference, but muſt be varied according to the nature of the plant. Silicious and calcareous earths, may be conſidered as hot and drying, the argillaceous as moiſt and cold, and the magneſian as poſſeſſing intermediate properties: clay abſorbs water, but does not communicate it; calcareous earth receives, and gives it too quickly; but the properties of theſe earths are ſo happily oppoſed, that they correct each other by mixture: accordingly, by the addition of lime to an argillaceous earth, this laſt is divided; and the drying property of the lime is mitigated, at the ſame time, that the ſtiffneſs of the clay is diminiſhed. The advantage of labour conſiſts in dividing the earth, aërating it, deſtroying uſeleſs or noxious plants, and converting them into manure, by facilitating their decompoſition; and the dung, which is mixed with earths, and decompoſed, not only affords alimentary principles, but likewiſe favours the growth of the plant, by that conſtant and ſteady heat, which it's ulterior compoſition produces.

Before the conſtituent principles of water were known, it was impoſſible to explain, or even to conceive, the growth of plants by this ſingle aliment. If the water were an element, or indecompoſable principle, it would afford nothing but water, in entering into the nutrition of the plant, and the vegetable would, of courſe, exhibit that fluid only; but when we conſider water as formed by the combination of the oxigenous and hydrogenous gaſes, it is eaſily underſtood, that this

this compound is reduced to it's principles; and that the hydrogenous gas becomes a principle of the vegetable, while the oxygene is thrown off by the vital forces. Accordingly, we ſee the vegetable almoſt entirely formed of hydrogene, or inflammable air: oils, reſins, and mucilage conſiſt of ſcarcely any thing but this ſubſtance. The decompoſition of water is proved not only in vegetable, but likewiſe in animal, bodies. Fiſhes live and grow, when ſupplied only with water; and the gold and ſilver fiſhes, which are kept in glaſs veſſels, with every diſadvantage of their unnatural ſituation, when well attended to, with change of water, derive a languid ſupport from it, when other ſupplies are withheld from them.

As it is the nitrogenous part of the atmoſphere, that plants require for their ſupport, or aliment, vegetation is more vigorous, when putrid animal or vegetable bodies, which afford this gas, by their decompoſition, are preſented to the plant. It is difficult to conceive, what may be the effect of the nitrogene upon the vegetable economy, as it cannot be followed after it's introduction into the plant, and is only found again on the decompoſition of the vegetable, when it re-appears in it's gaſeous form.

The carbonic acid, which is diſperſed in the atmoſphere, or in waters, ſeems alſo to be abſorbed by plants. The baſe of this acid even ſeems to contribute to the formation of the vegetable fibres; for, on bringing the fungus, and other ſubterraneous plants, in which the acid predominates, to the light, the acid nearly diſappears, the vegetable fibres are proportionably increaſed, and the reſin and colouring principles are developed by the oxigene of the ſame acid.

Though light be generally neceſſary to plants, as without it, they become pale, languiſh, or die, it has not been proved that it enters as an aliment into their compoſition; it ſeems rather to be a ſtimulus or agent, which helps to decompoſe the various nutritive ſubſtances, ſuch as air, carbonic acid, and water, carrying off their oxygene, while their other parts become fixed in the plant itſelf.

The moſt immediate effect of the fixation of the various ſubſtances, and the concretion of the liquids, which ſerve as the food of plants, is a ſenſible production of heat, which tempers the cold of the atmoſphere; on the other hand, the evaporation, which takes place through the whole body of the tree, moderates the ſcorching heat of the ſun's rays.

82. *Products of Plants.*] Mucilage appears to conſtitute the firſt alteration of the alimentary juices in vegetables. Moſt ſeeds are almoſt totally reſolvable into mucilage, and young plants ſeem to be entirely formed of it. This ſubſtance has the greateſt analogy with the mucous fluid of animals. Like that fluid, it is moſt abundant in the earlier periods of life, and all the other principles appear to be derived from it; and in vegetables, as well as animals, it's quantity becomes leſs in proportion, as the increaſe of magnitude, or growth of the individual becomes leſs, or ceaſes. Mucilage is not only the nutritive juice of plants and animals, but, when extracted from either, it becomes the moſt nouriſhing and wholeſome food we are acquainted with.

Mucilage forms the baſis of the proper juices, or the ſap of plants. Gums are dried mucilage: they flow naturally from the trunk of the tree which affords them, or they are obtained by inciſion of the bark; and are uſed in the arts, and in medicine.

Two ſorts of oils are obtained from plants; the fixed and the volatile. The difference between theſe two kinds of oils, does not merely conſiſt in their different degrees of volatility, but alſo in their habitudes, with their ſeveral reagents, The fixed, or fat oils, are inſoluble in alcohol, but the volatile or eſſential oils are eaſily diſſolved: the fixed oils are in general mild; while the volatile are acrid, and even cauſtic. It appears, nevertheleſs, that the oily principle is the ſame in both; but it is combined with mucilage in the fixed oils, and with the ſpiritus rector, or aroma, in the volatile oils.

From the concretions of the oils are formed wax, camphor, reſins, balſams, gum-reſins, caoutchouc or elaſtic gum, and varniſh. Sugar is obtained from a variety of plants. It is afforded by the ſugar-cane, bamboo, the maple, birch, wheat, and other grain; the roots of beet, parſnips, dried grapes, &c. Vegetables alſo afford acids and alkalis, and colouring principles; and they exhibit, in their analyſis, certain metals, ſuch as iron, gold, and manganeſe, beſides the different earthy ſubſtances.

The fecula of vegetables appears to be only a ſlight alteration of mucilage. The feculæ, ſuch as ſalep, ſago, ſtarch, thoſe of potatoes, caſſava, bryony, &c. are uſed in diet, medicine, and the arts.

The vegetable gluten, called by ſome, the vegeto-animal, on account of it's properties, reſembling thoſe of animal ſubſtances, is more particularly obtained from gramineous vegetables. To make the analyſis of any farina, a paſte is formed with the flour and water; and this is kneaded and wrought in the hands under water, till it no longer communicates any colour to that fluid. In this operation, the fecula falls to the bottom, while the gluten remains in the hand, and is tenacious, ductile, and very elaſtic. It becomes more and more adheſive, in proportion as the water, which it had imbibed, flies off by evaporation, when it has all the appearance and properties of an animal glue. Freſhly made gluten, expoſed to the air, readily putrefies; and when it has retained a ſmall quantity of ſtarch, this laſt paſſes to the acid fermentation, and retards the putrefaction of the gluten; and in this way, a ſtate is produced, reſembling that of cheeſe.

It is to this gluten, that wheat owes it's property of making a good paſte with water, and the facility with which it riſes. The gluten is ſometimes deſtroyed by the fermentation of flour; by which change, it is deprived of the wholeſome qualities it before poſſeſſed, and is incapable of riſing, and forming good bread.

Farina, or flour, is compoſed of three principles; the amylaceous principle, or ſtarch, the ſaccharine principle, or ſugar, and the glutinous, or animal principle. Each of theſe principles is capable of a different kind of fermentation; the ſaccharine principle undergoes the ſpirituous fermentation; the glutinous ſuffers the proceſs of animal putrefaction, and the amylaceous is changed by the acid fermentation. The panary fermentation may, therefore, be conſidered as an union

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of these three different spontaneous changes. But as soon as the leading phenomena of the fermentation, are well developed, and the principles already well mixed and assimilated, have by this means suffered a change of their respective natures. the fermentation is stopped by baking; and the bread is found to be much lighter in consequence of these preliminary operations.

The art of making bread was not known, at Rome, until the year of the city, 585. The Roman armies, on their return from Macedonia, brought Grecian bakers into Italy; before which time, the Romans prepared their flour, by making it into pap or soft pudding; for which reason, according to Pliny, they were called Pulmentarii, or eaters of pap.

93. *Origin of Coal-mines and Volcanos.*] Having taken a cursory view of the vegetable economy in plants, as they grow, and noticed some of their products, we may now just glance at their end, and then more particularly consider the manner of their reproduction. It is well known, that they are laid continually hold of, by man and brute, as the means of subsistence; all animals, from the elephant to the insect, derive their support from the vegetable department; even the carnivorous tribes, though not so immediately, are yet equally indebted to it for their existence, the creatures, which form their prey having first derived their food from plants, and all tribes of creatures, whether plants or animals, when dead, are reducible to the dust of the ground. Their spoils, when amassed together, and buried in the earth, form the strata of pit-coal, and other inflammable substances. Naptha, petroleum, mineral pitch, asphaltes, and amber, are only slight modifications of the bituminous oil, so abundant in pit-coal. A few forests being buried in the earth, are not sufficient to form the mountains of coal, which exist in it's bowels. A greater cause, more proportioned to the magnitude of the effect, is required; and we find it only in that prodigious quantity of vegetables which grows in the seas, and is still increased by the immense mass of those, which are carried down by rivers. These vegetables, carried away by the currents, are agitated, heaped together, and broken by the waves; and afterwards become covered with strata of argillaceous, calcareous, or other earths, and are decomposed. The formation of the pyrites, as well as that of coal, arises from the decomposition of vegetable and animal substances, and pit-coal is generally a mixture of pyrites, schistus, and bitumen. The different qualities of coal arise, therefore, from the difference in the proportions of these principles.

The best coal, is that in which the bituminous principle is the most abundant; it swells up, when it burns, and the fragments adhere together: it is more particularly on this quality, that the operation of coking of coal depends; an operation analogous to that in which wood is converted into charcoal.

When the schistus, or slaty principle, predominates in coals, they are then of a bad quality, and their earthy residue is more considerable.

When the pyrites is very abundant, the coal exhibits yellow veins of the mineral, which are decomposed, when they come in contact with the

the air or water. This ſometimes cauſes inflammation, and if this be excited on conſiderable maſſes, the dreadful volcano, and the ſtill more alarming and terrible earthquake are produced.

The volcano diſcharging, with a noiſe like that of thunder, torrents of flame and ſulphur, and rivers of melted metal, and throwing out clouds of ſmoke and aſhes, with rocks of enormous ſize, to many miles diſtance; it's cataracts of liquid fire, ruſhing down the ſides of the mountain, may bury plantations, villages, and even cities under the maſſy deluge; a province may be filled with conſternation, hundreds may periſh, and thouſands flee and find ſafety; but the terrors of an earthquake, what tongue can deſcribe! To attempt to flee the convulſed region would be in vain: the concuſſion ſpreads perhaps ſome thouſands of miles, and none know the place where the earth may yawn, and ſwallow up the people together with their poſſeſſions. In theſe awful moments, the aſtoniſhed inhabitants are alſo deprived of the means of flight, by the ſhaking of the earth; they are lifted up as upon waves, and cannot keep their feet: the hills are no certain protection; mountains fall in, and vallies ariſe; cities are buried under ground, or overflowed with water; iſlands, new and unexpected, ariſe in the ſea; and refuge is only to be found in reſignation.

Volcanos are to be met with in every quarter of the globe: Sicily, and the ſouth of Italy, have been long famed for their burning mountains and dreadful earthquakes; in theſe, many a fine city has been ſwallowed up or overwhelmed.

Within the preſent century, many dreadful eruptions and earthquakes have happened, in parts of the world we are acquainted with, as at Calabria, Jamaica, and Liſbon; and at Sicily, in 1693, nineteen thouſand of the inhabitants of that iſland periſhed; the city of Catanea was totally overthrown, and the ſhock felt in Germany, England, France, &c. to a circumference of two thouſand five hundred leagues. There are few countries that do not ſhew marks of theſe dreadful convulſions in nature, in their conical hills, and cleft and broken rocks; ancient as well as modern hiſtory furniſhes diſmal accounts of their devaſtations; and as there are volcanos in every quarter of the globe, it ſeems not unlikely, but their ravages may be quite as dreadful, among thoſe extenſive and numerous nations, who have not learned the art of recording their hiſtory.

It is when the decompoſition of the water and the pyrites is advanced, and the hydrogenous gas, with other vapours thus produced, can no longer be contained in the bowels of the earth, that the ground is ſhaken, and exhibits the phenomena of earthquakes; and when the concourſe of air facilitates the combuſtion of the bitumen and the hydrogenous gas, an eruption takes place. Mephitic vapours are multiplied on the ſurface of the ground, and dreadful hollow noiſes are heard; the rivers and ſprings are ſwallowed up, or ejected with greater violence: a thick ſmoke mixed with ſparks and lightning, is then diſengaged from the crater. To theſe preludes, which ſhew the internal agitation to be great, and that obſtacles oppoſe the iſſue of the volcanic matters, ſucceeds an ejection of ſtones and other products, which the lava drives before it; and laſtly, a river of lava flows

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out. At this period, the calm is reſtored in the bowels of the earth, and the eruption continues without earthquakes. The criſis is ſometimes ſucceeded by a diſcharge of aſhes which darken the air. Theſe aſhes are the laſt reſult of the alteration of the coals; and the matter which is firſt thrown out, is that which the heat has but partially melted or vitrified.

Plants, in their decay and fall, are reduced to vegetable earth; but their ſeeds having in them a principle of life, are unfolded in the general wreck, by the very principles which produce it; and thus, even by the paſſing away of one generation, another is brought forward.

Vegetable mould uſually conſtitutes the firſt covering or ſtratum of our globe, and, in thoſe inſtances, where it is diſcovered at a depth in the earth, there ſeems to be little doubt but it has been buried there by ſome revolution. When a vegetable is converted into earth, and mixed and confounded with the ſolid earths and metallic products, it ſtill retains the vegetable principles, though changed; and may therefore be conſidered as an intermediate ſubſtance between crude and organic bodies, which participates of the inertia of the one, and the activity of the other; and which in this ſtate is ſtill ſubject to an inſenſible fermentation, that changes it's nature ſtill more, and deprives it of all it's organic contents. The plants which grow in this vegetable mould, in the mean time, impoveriſh it, by deriving their food or nutritive juices from it; and there remain only the earths and metallic reſidues which form the ſtiff, poor ſoils, and the ochres when the ferruginous principle is very abundant. It is in theſe earths that diamonds, quartz, cryſtals, ſpars, gypſum, &c. are found: it is in this matrix that the bog ores, or ochreous ores of iron, are formed; and it appears that the impoveriſhed reſidue of vegetables, has been reſerved for the reproduction or reparation of the earthy and metallic ſubſtances of the globe, while the organic remains are made to ſerve as nouriſhment for the ſucceeding generation of vegetables.

84. *Fructification of Plants.*] The preparation of the ſeed in plants is a delicate operation; to underſtand which, it ſeems neceſſary to conſider the parts employed in fructification: theſe are generally the calyx or flower-cup, the corol or flower, the ſtamens, the piſtil, the pericarp, and the ſeed: all theſe together, form the flower and fruit.

The calyx is an extenſion of the outer bark or rind of the plant, diverging and forming a kind of couch for the ſupport of the other parts. The corol is produced from the inner bark of the tree or plant, and ſeems deſigned to protect the ſtamens and piſtil from any injury which might occur from external cauſes: it varies in ſhape, colour, and number of petals. The nectary ſometimes forms an appendage to it, and ſecretes the honey of plants. The ſtamens are produced from the wood of the plant, and conſiſt, each, of a filament or thread, and an anther or button on the top of the filament. The piſtil is produced from the medullary part of the plant, and conſiſts of the ſtile or column, and the ſtigma or capital, at it's extremity. The ſtile riſes from the germ, which is called, when fully grown, the pericarp, from it's containing the ſeed.

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The preparation of the ſeed in plants, ſeems ſomewhat ſimilar to the ſowing of ſeed in the earth. When the calyx opens, and the corol expands, the ſtamens uſually occupy a kind of interior circle, and ſurround the piſtil. The pollen, or fecundating duſt, elaborated by the anthers, is abſorbed by the ſtigma, and paſſing down to the germ through the tubular body of the ſtile, vivifies the ſeed. When this is performed, the end of floreſcence is anſwered, and the ſtamens, piſtil, and corol, gradually decline, to make room for the increaſing ſeed, which at length is matured in the pericap.

The ſtamens and piſtil generally repoſe on the ſame flower; ſometimes they are upon the ſame individual plant, but placed upon different flowers, and at other times they are iſolated and ſeparate plants: in theſe latter inſtances, there may appear ſome difficulty in conceiving how the pollen or fecundating powder of one flower, is brought to fall, with minute nicety, on the ſtigma of another, which, in ſome caſes, may be very remote; and this is differently accounted for. It has been ſuppoſed, that flies may be the agents employed in this buſineſs; that the pollen ſticks to their little legs, while they taſte the ſweets of one flower, and drops off, while they renew their repaſt at the other. We readily imagine that theſe wayward, diſportive, and reſtleſs creatures, ever dreſſing or rubbing up their little bodies, wings, and limbs, are unwilling to carry any burthen, but what they intend for their own little purpoſes; but then it may be obſerved, that their very wants or neceſſities may induce them, unwittingly, to labour for others as well as for themſelves; and that, thus, they may bear their part in the great garden of creation, to dreſs and to keep it. To inſtance this in bees; the wax is merely the pollen of flowers, very little altered. Theſe inſects have their thighs prepared with rugoſities, to bruſh the pollen from the anthers, and convey it to their neſts. Shall the labourer, during his toils, go without his refreſhment? or ſhall he return to his hive with nothing but wax? The flowers, which have only anthers, do not in general afford honey; this nectar of flowers is contained chiefly in the baſe of the piſtil. He ſeeks the plant which affords it, plunges in his proboſcis, and extracts the delicious fluid. If he do not drop any of his load of wax or pollen, he may at another time renew his repaſt: but if any of it fall, it is abſorbed, the act of conception is accompliſhed, or the ſeed is impregnated, and the organs, which afford the nectar, dry up, and wither from that moment, while the ſeed ripens to maturity. The nectar frequently retains the odour and other qualities of the plant which produced it; now if our labourer had a choice in his wax, will he not by the ſame taſte, take his honey from a plant of the ſame ſpecies which afforded him his load? where only the pollen can produce the intend effect.

The pollen is alſo carried about by the winds; and if an attraction exiſt between it and the piſtils of plants of the ſame ſpecies, it may hereby be drawn to them: in fact, muſt it not, if, in floating about, it gets within the ſphere of the effluvium or odour of ſuch plants, though imperceptible to our dull ſenſes; muſt it not as naturally fall to them, as the needle marks out the magnetic pole?

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A correſpondent informs me, that many inſtances founded on real obſervation, may be educed to ſubſtantiate the certainty of this attraction; that one has come within his own remark; viz. that wheat of the pureſt white, ſown and reſown, without a mixture of any other wheat, by having been ſurrounded by red wheat, in a few years graduated from white to red, till at length it bore no contradiſtinction to the latter.

The proceſs eſtabliſhed for the fructification of water-plants is admirable. The water lily, by a ſtalk ſtill lengthening proportionate to the depth of water, riſes through, bears its beautiful flower conſtantly buoyant over the ſurface, until it's ſeeds are rendered fruitful, when their capſule ſinks beneath, generally many feet below the ſurface of the water. In the vallifeneria of Italy, the piſtil and anther grow upon different plants: the former is permanent; but the latter, while both are blooming, is detached from it's ſtalk, and floats to and fro among the permanent bloſſoms, bearing along the fecundating powder or pollen.

Even art is made uſe of to effect the above objects. The fruit-bearing palm of the eaſt, bears fruitful, or we may ſay, ſeed-yielding bloſſoms, on one tree, and barren (or only pollen-yielding) bloſſoms on the other. Early hiſtorians have recorded, that the branches of the latter were uſed to fructify the former; and the practice is continued in Aſia to this day.

In objection to this ſyſtem, it has been ſaid, that a multitude of hybrid plants would be a conſequence, if it were real. But it has been diſcovered by the microſcope, that the ſpecific formation of the pollen is perfectly adapted to the interſtice of the ſtigma, and that it could no more inſinuate with a totally different ſpecies, than the indented curvature of one paper, can exactly correſpond with that of another, with which it was not indented. Varieties may have been obtained with a mixture of different ſpecies of the ſame genus; but this is not more a departure from nature, than what may be found in the foreſt or the field, in the caſual variation of colour, in the plumes of birds, and the petals of flowers: our pigeon and canary-bird fanciers avail themſelves of the variety of thoſe ſpecies, to form commixtures of colours; as doth the floriſt in his gaudy department, yet they have not been able to produce a ſpecific genus.

Voluminous are the works which have been written, eſpecially in later times, on the ſcience of botany; and the claſſes and orders, the genera and ſpecies, with their varieties, are neceſſarily very numerous. Charles Linnæus was the firſt who conſtituted the ſtamens and piſtils, as the baſis of an artificial method of arranging plants, and, in his Claſſes Plantarum, ſays, that he was led to this, by conſidering the great importance of theſe parts in vegetation. They alone are the eſſentials neceſſary to fructification; all the other parts being wanting in ſome flowers. The Linnæan ſyſtem, which is founded on the ſexuality of plants, admirable as it is, conſidered analogically, or in a philoſophical view, would have perhaps been ſtill more acceptable to the preſent taſte, had the diviſional terms been expreſſive only of number and ſituation. But, rapt in the idea of animation among his vege-

tables,

tables, the genius of our author has ſeen, in the beautiful ſymmetry of plants, not only the orders which ſeem to harmonize in ſociety, the brotherhoods, and other endeared connections, in domeſtic life, but alſo thoſe whereby human life is diſtracted. In the lofty and towering plants, he ſees nobles; in thoſe of lower ſtature, plebeians; and in the unequal diſtribution, &c. of the piſtils and ſtamens, he diſcovers polygamy, and unequal powers or governments.

The ſyſtem of Linnæus is now generally received, as the moſt conformable to nature of any yet offered to the world; and, if we may admit his application of the orders, or diſorders, in ſociety, to the economy of plants, his ſyſtem has this peculiar excellence, that the very name of each vegetable gives us it's deſcription. His ſyſtem, however, is imperfect, becauſe the works of creation are ſo infinitely varied, as to elude every attempt of man, fully to comprehend them under artificial arrangements.

The ſtudy of botany is not merely an elegant amuſement, a beautiful diſplay of the economy eſtabliſhed in the vegetable department; but, from the varied uſes of plants, in food, medicine, raiment, and the other arts, it is often of real ſervice to mankind,

Many animals are endowed with an inſtinctive faculty of diſtinguiſhing, with certainty, thoſe plants, which are ſuitable for food, from thoſe which are noxious. Man, in his preſent artificial ſtate of being, has no ſuch inſtinct: he muſt have recourſe to experience and obſervation; and theſe are not always ſufficient to guide him. Before the vegetables, that grow in America, the Weſt India iſlands, and the Eaſt Indies, became familiar to the Europeans, theſe people, after long voyages, and a conſtant uſe of ſalt proviſions, were often allured, by the agreeableneſs of ſmell and taſte, to eat poiſonous fruits: perhaps they were preſſed by neceſſity, and eat the vegetable produce which appeared to them the moſt likely to afford them wholeſome food. Many lives were loſt by trials of this kind, while they were ignorantly trampling under their feet, plants which would have afforded them good nouriſhment, and been highly grateful to them. A little ſkill in botany might have prevented ſuch miſtakes. For example, a perſon ſkilled in botany, on perceiving the flower of a plant, whoſe calyx is a double valved glume, with three ſtamina, two piſtils, and one naked ſeed, can pronounce with certainty, that the plant, from which the flower was taken, bears ſeeds of a farinaceous quality, conſequently they may be ſafely uſed as food. In like manner, ſhew him a flower with twelve or more ſtamina, all inſerted in the internal ſide of the calyx, he can pronounce the fruit of it to be wholeſome. On the other hand, ſhew him a plant whoſe flower has five ſtamina, one piſtil, one petal, or flower-leaf, and whoſe fruit is of the berry kind, he cannot heſitate to pronounce it poiſonous.

We have regarded the plant, as it ſtood, the effects of it's decompoſition or decay, and the delicate proceſs of fructification; we may now conſider the unfolding of the ſeed when in the earth.

To deſcend from the ripened vegetable, to the developement of the infant plant, may ſeem a retrograde, or unnatural movement, as the plant or vegetable is generally underſtood to grow from the ſeed; the fact

fact however is, that while we see in the works of art, a design, a beginning, and a completion and end of the work. In nature we discover a perpetual circulation, and whatever part we start from in running over the works of creation, if we follow the natural course, we must move in a sort of circle, and at last return to the place we set out from; or, like the pendulum, be kept in a continued state of oscillation in all our attempts to discover the beginning of things. To finite capacities, they are utterly incomprehensible. Whence, for instance, come the rivers that continually flow into the sea? From the rain. Whence the rain? From the clouds. Whence the clouds? From the sea. What power converts food into nutriment? The principle of life in the creature. What supports the life or power? The food which the creature receives. Whence comes vegetable earth? From the decay of plants. Whence plants? From vegetable earth. Plants grow from seeds. Whence come seeds? They are the produce of plants.

85. *Unfolding and Growth of Plants.*] In the young plant, or embryo, the labour of digestion is not intrusted to the feeble and tender germen. The seed is formed of a parenchyma, which imbibes juices from the earth, elaborates them, and does not transmit them, to the incloſed germen, until they are reduced into proper nutriment. By insensible degrees, the parenchyma is destroyed; and the infant plant becomes sufficiently strong, and performs the work of digestion without assistance. In the same manner it is that the placenta, which of itself affords no support to the life of the fœtus, prepares and disposes the humours of the parent to become a suitable nourishment; but when the animal is brought forth, it receives for nourishment a fluid less animalized, it's organs are gradually strengthened, and at length become capable of digesting a stronger and less assimilated nourishment.

The seeds of plants are of various figures and sizes. Most of them are divided into two lobes, though some have more; and others appear undivided and entire; but their essential properties, when considered with regard to the principles of vegetation, are all the same.

The great garden bean is a seed whose parts are remarkably conspicuous: it is covered with two coats or membranes; within these the body of the seed, divided into two portions or lobes, is externally smooth, from its being covered with a thin film or cuticle; its substance is not a mere concreted juice, but is curiously organized, and consists of a vast number of small bladders, filled with parenchyma, or pulp; and in the heart of this lies the embryo plant. At the thick end of the bean there is a small hole, visible to the naked eye, immediately over the radicle, or future root, that it may have a free passage into the soil. 1st, The plume, bud, or germ, and the radicle, are in colour and consistence much alike; or, in other words, they are the different extremities of the same body; till time unfolding their parts, the radicle descends down, and takes root in the earth, the bud arises into all the beautiful variety of stem, branches, leaves, flowers, fruit, &c. 2d, Within the radicle, there is contained a substance, called the seminal root, which divides into three branches; the middle one runs directly up to the plume, the other two pass into the

lobes, on each ſide, and ſend forth ſmaller branches through the body, till their ramifications become quite minute on the ſurface of the lobes. When the ſeed is ſown, and the moiſture of the earth, abſorbed by the outer coats, finds it's way into the pulp, or inner part of the lobes, the minute branches of the ſeminal root take up the moiſture, and convey it into the main trunk, the ſap, thus ſupplied, runs in two oppoſite directions; part of it aſcends into the plume, and promotes the growth and expanſion of that organ, and part of it deſcends into the radicle for nouriſhing it, and evolving it's various filaments; when the radicle begins to take root in the earth, and to abſorb ſome moiſture, not, however, in a ſufficient quantity to ſupply the exigencies of the plume, the two lobes riſe along with the plume, aſſume the appearance of two leaves, defend the young plume from the injuries of the weather, and, at the ſame time, by abſorbing dew, air, &c. aſſiſt the tender radicle in nouriſhing the plume, with which they ſtill have a connection, by means of the ſeminal root above deſcribed. But when the radicle, or ſecond root has deſcended deep enough into the earth, and abſorbs of itſelf ſufficient nouriſhment for the plume, theſe ſeminal leaves, which differ in ſhape from the other, begin to decay and fall off. And in this way is every plant, growing from ſeed, poſſeſſed at firſt of two roots, both of which are contained in the ſeed, undergo the changes, and anſwer the purpoſes already mentioned. Plants, beſide their growing from ſeeds, are raiſed; ſome from any part of the root ſet in the ground; others by new roots that are propagated from the old ones, as in tulips; others by offsets; in others the branches ſet in the ground, will take root and grow; and, laſt of all, grafting and inoculation, in certain ſorts, are known ways of propagation.

Plants may be divided into herbs, ſhrubs, and trees: herbs are thoſe plants whoſe ſtalks are ſoft; as graſs, ſow-thiſtle, or hemlock; ſhrubs and trees are of a firmer texture; the difference between theſe latter is, that ſhrubs grow not to the height of trees, and uſually ſpread into branches near the ſurface of the earth; whereas trees generally ſhoot out in one great ſtem or body, and then, at a good diſtance from the earth, ſpread into branches; thus, gooſeberries and currants are ſhrubs, oaks and cherries are trees.

Whatever part of a plant we examine, we ſhall find it's whole ſubſtance to be a congeries of tubes, veſſels, and fibres, with their contained pulp or fluids; the root, the trunk, or ſtalk, the branches, and even the leaves, flowers, and fruits all anſwer this deſcription. The roots, trunks, and branches of trees, each generally comprehend three different parts; the pith, or core at the centre; next to this the wood, and, ſurrounding theſe, the bark; the bark is alſo covered with a ſkin; the pith and the bark are ſimilar ſubſtances; the parenchyma, or pulp of theſe, ſeems to be compoſed of ſmall cells, or bladders, and through the woody part of the plant, eſpecially in the root, the bark is inſerted like rays towards the centre. The true wood is a congeries of theſe tubes dried. Between the bark and the wood, a new ring of theſe ducts is formed every year, which gradually loſe its ſoftneſs as the cold ſeaſon approaches, and, towards the middle

of

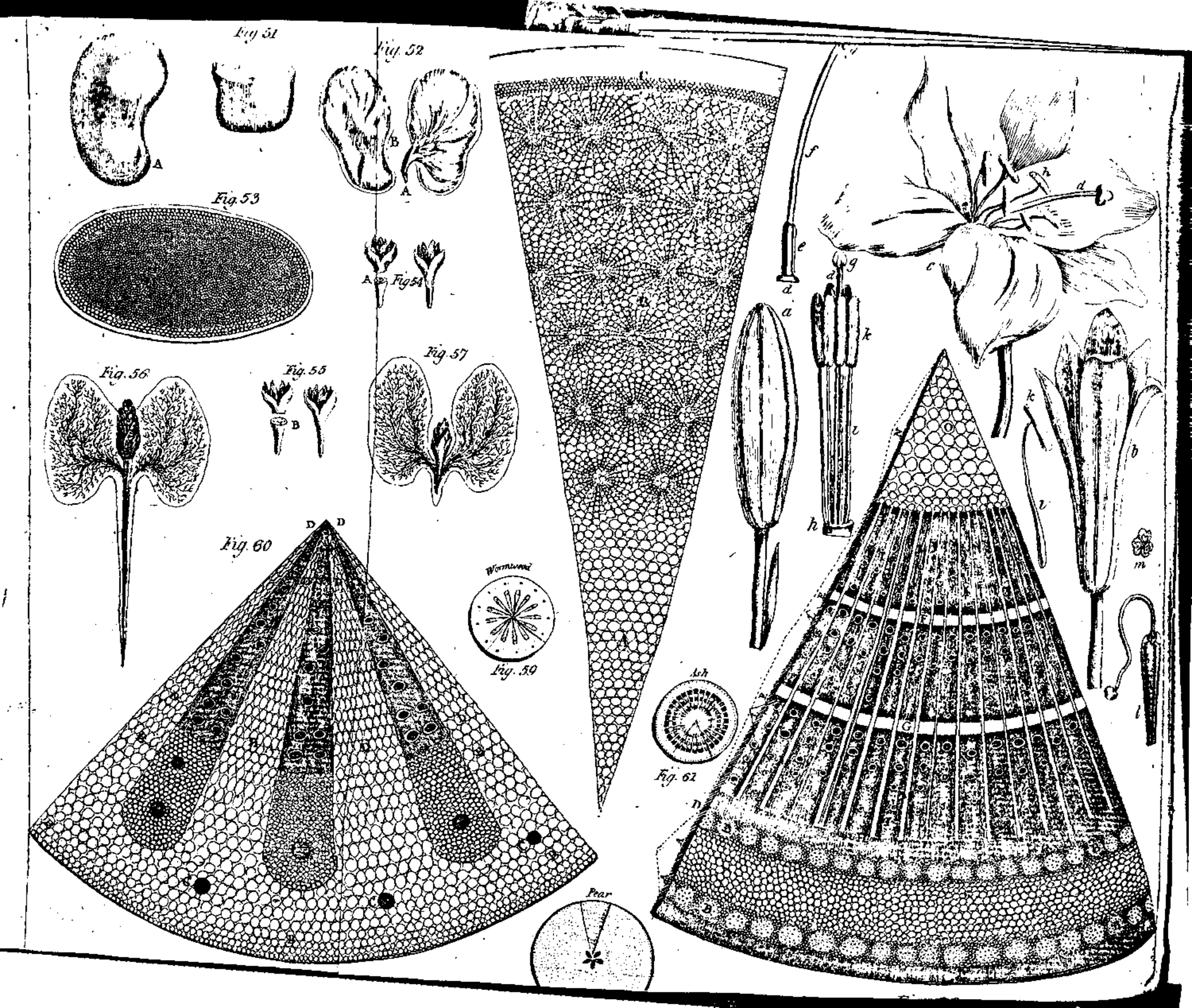


Fig. 51
Fig. 52
Fig. 53
Fig. 54
Fig. 55
Fig. 56
Fig. 57
Fig. 59
Fig. 60
Fig. 61
Wormwood
Ash
Pear

of winter, is condenſed into a ſolid ring of wood. Theſe annual rings, which are diſtinctly viſible in moſt trees, when cut through, ſerve as natural marks to diſtinguiſh their age. The rings of one year are ſometimes larger, ſometimes leſs than thoſe of another, probably owing to the favourableneſs or unfavourableneſs of the ſeaſon. The leaves, flowers, and fruit of trees, are organized like the trunks, and compoſed of the ſame ſubſtance, differently modified, or farther refined.

The figures on Plate VI. are illuſtrative of what has been advanced on the growth, ſtructure, and fructification of plants.

Fig. 50. A. The foramen, or hole in the garden bean, through which the radicle ſhoots into the ſoil.

51. A tranſverſe ſection of the bean; the dots being the branches of the ſeminal root.

52. A. The radicle. B. The plume, or bud.

53. Longitudinal ſection of one of the lobes of the bean, ſhowing the ſmall bladders, of which the pulpy or parenchymatous part is compoſed.

54, 55. A. A tranſverſe ſection of the radicle. B. A tranſverſe ſection of the plume, ſhewing the organs, or veſſels of the ſeminal root.

56. Seminal root branched out upon the lobes. 57. Appearance of the radicle, plume, and ſeminal root when a little further advanced in growth.

58. A ſmall part of the tranſverſe ſection of the pulpy part of a pear magnified, ſhewing A the acetary, or inner parenchyma, which joins to the core. B. The outer parenchyma, formed of globules, or grains, ligneous fibres, and radiated veſſels. C, Ring of ſap, veſſels and ſkin.

59. A tranſverſe ſection of the root of wormwood, as it appears to the naked eye.

60. Section of 20 magnified. A A, The ſkin with its veſſels. B B, The bark; the round holes. C C C, Are the lymph ducts of the bark; all the other holes are little cells and ſap veſſels. D D D, Parenchymatous inſertions from the bark, with the cells, &c. E E E, The rays of wood, in which the holes are the air veſſels.—N. B. This root has no pith.

61. A tranſverſe ſection of a branch of aſh, as it appears to the eye.

62. Section of 22 magnified. A A, The Bark. B B, Arched rings of ſap veſſels. C C. The parenchyma of the bark, with it's cells. D D, A circular line of lymphducts. E E, The wood. F, Firſt year's growth. G, Second. H. Third year's growth. I I I, The true wood. K L, Air veſſels. M M M, The parenchymatous inſertions of the bark repreſented by the white rays. N O, The pith, with its bladders, or cells.

The parts of fructification, already deſcribed, are pretty well exhibited in the lily, and other flowers of the liliaceous tribe, except that the calyx, which accompanies almoſt all other flowers, is wanting in the greater part of theſe.

63. *a*, The

63. *a*, The flower in bud. *b*, The corolla expanding. *c*. The corolla quite open.

d. The piſtil, or pointal. *e*. The germ. *f*. The ſtile. *g*. The ſtigma.

h. The ſix ſtamens. *i*. The filaments. *k*. The anthers.

l. The germ advanced into a pericarp, which is here a capſule.

m. A tranſverſe ſection of the pericarp, to ſhew the three cells and the ſeeds.

SECTION VIII.

The Animal Department; including the Structure and Nutriment of the Body, the Circulation of the Fluids, &c. and the Diviſion of Animals into Quadrupeds, Birds, Amphibia, Fiſhes, Inſects, and Worms.

86. *Compariſon between Animals and Plants.*] We are now come to conſider the laſt, the nobleſt, and the moſt beautiful part of the creation: the creatures, for whom this earth ſeems to have been entirely formed, and for whoſe repaſt or uſe the whole of its unintelligent productions appear to have been brought forth: theſe are the animated tenants of our globe. All animals appear to be endowed with a degree of underſtanding or perception, and choice or will. This, more than their formation, appears to diſtinguiſh them from the inſenſible vegetables whereon they feed. Though there appear, at firſt view, this moſt evident diſtinction between an animal and a plant, yet ſome of theſe very different kinds of creatures aſſume an appearance ſo exactly like each other, that philoſophers, in conſidering them, ſeem at a loſs to determine where animal life begins, or vegetative ends. The ſenſitive plant ſhrinks at the touch, but this, perhaps, mechanically proceeds from the interruption of the fluids in it's tender veſſels. Some plants ſeem poſſeſſed of voluntary motion, preſenting their flowers to the rays of the light, and purſuing the ſun from eaſt to weſt, rejoicing in it's beams; but this is alſo mechanically accounted for. It is well known that a certain degree of heat relaxes the tone of the vegetable organs, and at the ſame time proportionably evaporates the fluids which theſe organs contain. Now, to whatever ſide of the plant the heat is principally applied, there, of neceſſity, muſt alſo be the greateſt flaccidity of the fibres, and the greateſt evaporation of the fluids; of courſe, from the law of gravitation, the flower, indeed the whole plant, muſt incline to that ſide from whence the light or heat proceeds. Vegetables alſo are fixed to one ſpot, and muſt wait for accidental ſupplies of nouriſhment. Their roots are fitted to abſorb every fluid that comes within their reach: they have been found by experiment to imbibe fluids that actually poiſon them. The caſe appears to be very different with animals; they have a choice in their food, and if one place does not ſupply it, they ſeek it in another, and take what is beſt ſuited to their conſtitutions;

conſtitutions; they ſeek preſervation from ſuperior force and violence in flight, art, or mutual combination: even the loweſt tribes of animals, which, from their ſimple formation, have been called zoophytes, a name implying a vegetable ſubſtance endowed with animal life, are found to ſkulk or fly on the appearance of even diſtant danger: thus the polypus contracts it's horns, and the ſtar fiſh it's arms; the earth worm contracts itſelf, and hides in the earth when diſturbed: ſhell fiſhes, and inſects alſo, of the moſt inert kind, are furniſhed with means of defence, which they avail themſelves of with diligence; inſects make their way into plants and other bodies, and there lie ſecure; the Pholades fiſhes, merely by working with their tongues, dig themſelves apartments in ſolid rocks, and even the dull oyſter can open or cloſe up its ſhells.

87. *Conſtitution and Propagation of Animals.*] It is a received opinion among naturaliſts, that an animal body is a compages, or complicate ſyſtem of veſſels, with their contained circulating fluids, variouſly diſpoſed, to form parts of different figures for different uſes. The ancients ſuppoſed that the heart and brain were firſt formed, and that the other parts proceeded from them; the moderns, by help of glaſſes, have diſcovered the figure of the animal at a very early period of its exiſtence; and ſome have thought that all the parts exiſt in miniature, from the firſt formation of the fœtus; but the wonderful operations in the natural world, when attempted to be traced to their ſource, become ſo extremely delicate and minute, as to eſcape the niceſt obſervations of man, aſſiſted with the moſt ingenious contrivances of art.

Animals are generally divided into male and female, and ſome are both male and female, and called hermaphrodites, as the earth-worm and ſome others. With regard to their manner of propagation, they are divided into oviparous, bringing forth eggs; and viviparous, bringing forth their young alive. The oviparous are extremely prolific; the ſpawn of fiſhes, the eggs of birds, of ſerpents, and of inſects, are almoſt innumerable; thoſe of the inſect tribes appear to be every where ſcattered abroad, and by the heat of the ſun, of putrefying bodies, and by various other cauſes, to break forth into animation in places ſo unexpected, that ſome have had recourſe to a ſuppoſed new creation, to account for their ſudden appearance. Theſe minute animals make their appearance as reptiles, or as ſmall fiſhes, and move about for a time; they are ſhut up in a narrow cell cloſely ſurrounding their bodies, and under the names of aurelia, &c. ſeem entombed for a ſeaſon; they burſt their narrow manſions, take wing, and are for ever buſy during the very ſhort period of their enlarged exiſtence. The embryo of the viviparous kind, naturaliſts tell us, is alſo an egg impregnated like the other; it appears, however, to be of a more delicate conſtitution, and only capable of being matured in the body of the animal.

The human body is accounted the moſt exquiſite in its formation, and the nearer the other animals approach to this, the higher degree of ſagacity they ſeem generally endowed with.

The food which we take, being chewed and mixed with the ſaliva, and thereby rendered fit for digeſtion, deſcends into the ſtomach; where being ſtill further thinned by the juices there, and undergoing a gentle warmth and attrition, it is digeſted and thrown into the alimentary canals by the periſtaltic, or wormlike motion, of which, and the compreſſion of ſurrounding muſcles, it is carried along: being now mixed with the bile, and the juice of the pancreas, or ſweat-bread, the groſs parts are protruded through the bowels. The bile is ſecreted by the liver; the gall bladder is a kind of reſervoir for it, and it is from this that it is ſupplied for the purpoſe of the animal economy; the nutritive, or thin and milky chyle, is abſorbed by the lacteals (hair-like tubes ſpread on the ſmall inteſtines) through which it paſſes to the receptaculum chyli, and thence through the thoracic duct, and left ſubclavian vein, mixing with the blood, it enters the heart.

88. *Digeſtion of Food, Circulation of the Blood, Breathing, &c.*] And now, having got to this living and powerful ſpring of action, which waits not to be renewed by the application of winches, or the winding up of wheels; but whether we ſleep or are awake, by night or by day, like an unwearied and faithful labourer, with muſcular exertions, continually diſtributes the vital ſtream through our complicated frame, till their varied functions ceaſe, and the tenement of clay is inhabited no more. Having got to the heart, in ſurveying the animal economy, we might hence take our departure, and following the blood in it's circulation through the body, we might explore the inmoſt receſſes of this wonderful piece of mechaniſm; we might ſee it, when all was in health and in vigour, every part ready to ſpring into action, or all at eaſe; we might obſerve the thouſand changes it is incident to; enervated by labour, or enfeebled by age; racked by pain, and diſordered by every kind of exceſs; we might obſerve it agitated by the paſſions, oppreſſed with grief, and finding relief in a ſigh or in tears; invigorated with hope; convulſed with laughter; animated with joy; tremulous with fear, or with anger; and, with the exceſs of any of theſe, brought to it's end. We might mix with the features, ſee them growing into expreſſion, obſerve paleneſs or a bluſh betraying the ſecret emotions of the ſoul; the eye and the ear we might minutely examine; ſee how they convey information to the mind through the medium of the brain, amuſe it with various objects of beauty, or captivate it with the bewitching melody of ſounds; we might notice the diſorder in its moſt exquiſite parts, when from intenſe application, and various other inexplicable cauſes, reflection goes aſtray, and the patient is inſane; but man is beyond the comprehenſion of himſelf: the philoſopher may enquire, and the phyſician draw his concluſion; their theories may be ſpecious and oftentimes juſt, but it ſeems they muſt be ſhort; and the more they enter into this extenſive field of enquiry, the more they will ever ſee before them for examination and for conjecture.

The heart, as deſcribed by anatomiſts, is a muſcle of a conic figure, furniſhed with it's cavities, valves, and tubes, as an hydraulic machine; we may conceive ſome idea of it's motions, by obſerving the mechaniſm and effects of a pump, or a common pair of bellows;

from

from the veins the blood enters the cavities or ventricles of the heart through openings called auricles; the ventricles contracting, the blood is thrown through the arteries all over the body. This circulation may be defined to be a perpetual motion of the blood, in consequence of the action of the heart and arteries, which impel it to all parts of the body, and it is brought back by the veins. The arteries, at their firſt branching out from the heart, are large tubes called aortæ; the veins, at their entering the heart, are alſo large tubes called venæ cavæ. From the minute branches, or extremities of the arteries diſtributed through the body, ariſe the veins and the lymphatics; the veins to receive the blood, and return it to the heart: the lymphatics to carry off the lymph, or thinner part of the blood, to keep it in a right temper for flowing through the veins, and to diſtribute the lymph to the chyle in its paſſage to the heart, for the purpoſe of diluting and preparing it to incorporate with the blood.

Although the chyle keeps perpetually flowing into the blood, yet no redundance enſues, becauſe the maſs of fluids and the blood are continually changing; new blood is perpetually forming from the chyle, and the old blood is ſecreted, forming other fluids, as the ſaliva, bile, &c. or breaks down into putreſcent mucilage, and is carried off by exhalant veſſels fitted to receive it, though they refuſe egreſs to the particles of blood.

Of the fluids ſecreted by the different glands, the ſweat is not the ſmalleſt diſcharge we experience; the effluvium, continually thrown off by the reſpiration of the lungs, we are told, far exceeds it, but is, in fact, the ſame evacuation through different channels: hence, thoſe who perſpire the moſt in ſummer, their pores being cloſed by cold in the winter, and the diſcharge thrown upon the lungs, become peculiarly liable to aſthmatic complaints, eſpecially if the atmoſphere be already too humid to receive the diſcharge.

The lymphatics are an extremely delicate and tranſparent ſyſtem of veſſels, numerouſly ſupplied with valves, which for many ages eluded the inveſtigation of anatomiſts, but are now found to exiſt very numerouſly in all parts of the body, and are evidently deſigned to take up the ſuperabundant fluids, every where diffuſed into all the cavities and minuteſt interſtices of the body, which would otherwiſe accumulate, and be productive of inconvenience and diſeaſe, as is ſhewn in dropſy, when theſe veſſels fail to perform their office. By theſe veſſels the fluids, thus depoſited to lubricate the innumerable ſurfaces, are removed and conveyed into the circulating blood, and carried off by the kidneys and other organs of ſecretion.

Some anatomiſts ſeem unwilling to aſſume a perfect knowledge of the uſe of the air inſpired by the lungs; it is known to be inſtrumental in ſpeech, and to convey ſmells. When the left ventricle has thrown the blood to the remote parts of the body, and it has returned through the veins to the right auricle of the heart, the right ventricle receives it, and throws it through the pulmonary artery into the lungs; here the air ſeems as a vehicle to carry off the noxious ſteam; and from the principle of fire it may be fraught with, it perhaps refreſhes and helps to renew the vivifying quality of the crimſon ſtream;

before, returning by the pulmonary veins through the left auricle of the heart, the left ventricle ſends it on the ſame kindly errand it has already run through the body.

In the lungs the blood comes within the thouſandth part of an inch of actual contact with the air taken in by breathing, and it has been ſhewn that the thin membrane between them, like a ſieve, admits the air to the blood, and, in fact, does not prevent the action of one on the other. This approximation muſt ſurely be of conſiderable importance in the animal economy, ſince all the blood in the body, by an aſtoniſhingly rapid circulation, is continually expoſed to the action of the air in the lungs; and the pulmonary artery, which conveys the blood into them, is as large as the aorta which carries the blood to all other parts of the body. It has alſo been demonſtrated, that the red colour of the blood depends on it's expoſure to air, the arterial blood being much more florid than that which is on its return from the different parts of the body. But it is not all kinds of air which are proper for reſpiration, but only one particular kind that will ſupport animal life, and this conſtitutes about $\frac{1}{3}$ or $\frac{1}{4}$ of our atmoſphere, and is called by modern chemiſts oxygene, or pure air. It has been aſcertained, that of this pure air taken in by inſpiration ſcarce any is returned by expiration, but it is abſorbed by the blood, and thus yields a ſort of pabulum to the body. The matter of fire, contained in it, in a latent ſtate, gets looſe as the air paſſes from the gaſeous to the concrete ſtate, in being abſorbed by the blood, and thus helps to conſtitute or keep up the animal heat; for the heat of the body ſeems alſo to depend much on the ſupply of aliment to the ſtomach.

89. *The Will, Brain, Nerves, &c.*] Hitherto we have conſidered the animal functions as they are paſſively carried on; but animals have alſo voluntary motion. In ſurveying them in this point of view, new wonders ariſe, and ſtill more incomprehenſible; we may have a remote idea of the circulation of the fluids in a uniform way; we may obſerve the ſwelling of the tide, the courſes of the heavenly bodies, the growing of plants, the motion of the winds, and of other inanimate bodies; we may ſay it is all natural, and think we comprehend it; but when we come to contemplate voluntary action, the ſage and the child ſeem at once on a level; alike unable to comprehend the powers they enjoy, and alike capable of employing them to their likings.

Anatomiſts, in deſcribing the body as an animated machine, inform us, that from the brain, which they imagine to be the ſeat of the underſtanding, ariſe certain branches, which they ſuppoſe to be faſciculi, or bundles of extremely fine tubes, ſo minute, indeed, that their cavities cannot be diſcovered; theſe they call nerves; they tell us, that they are the inſtruments of ſenſation, and diſtributed throughout the whole frame, that whatever we feel is only experienced by theſe conveying the ſenſations to the brain; but how this is done is matter of diſpute: ſome ſuppoſe, that however objects affect us, whether they come in contact with the hand or any other part of the body, whether their rays fall upon the retina of the eye, which is an expanſion of the optic nerves, or their effluvia enter the noſe, and ſtrike on the olfactory ones, whether ſounds be in the ear, or taſtes in the mouth, the

the nerves receive the impreſſion and vibrate it to the brain. Others object that they are ſlack, moiſt, and ſurrounded with ſoft parts, and are therefore unfit for vibrations. According to their conjectures, the brain is a gland ſecreting from the blood an inviſibly fine fluid, called the animal ſpirits, or nervous fluid; this flows continually through the nerves, and is tranſmitted into all the parts of the frame. To all theſe proceſſes in our nice elaboratory the infant owes its growth, and the man of years his continuance; were our hands of ſteel, or our bones of adamant, they would ſoon be worn out, but fitted to receive the nutrimental fluids, they mock the violence of labour, and only gather ſtrength from the duties impoſed on them; by theſe the fingers are guarded with nails, and by theſe the jaws are furniſhed with teeth. The fluid, which flows with an equable motion through the nerves, is affected in its motions by every object that ſtrikes upon theſe; and, as to ſtop the end of a tube, is to ſtop the motion of the whole contained fluid, ſo the extremity of the nerve being affected, the animal ſpirits ſtop at once, and faithfully give to the brain or ſenſorium the varied impreſſions of pleaſure and pain. It is when the mind willeth that theſe animal ſpirits, ruſhing into the muſcles contract them, and thus put the body into action: but here the man of ſcience muſt hold, and here his conjectures ſeem to have an end.

If artificial machines, by caſual ſupplies of oil, be made to run glibly, the animal frame, in this reſpect, ſeems to have peculiar advantages, the joints are tipped with cartillage, and furniſhed with a mucilaginous matter, called ſinovia, their motions are ſo fine, we ſeem not to have the leaſt feeling of their movements, and the whole machine ſeems to be amply ſupplied with lubricating fluids. It is remarkable, that though our joints are ſo free from friction, yet whether we ſit or ſtand, or in whatever poſition we be, the body ſeems fixed and firm, without effort; it ſeems the bones are ſtayed by the muſcles, as the yards in a ſhip are kept ſteady by the braces; if, in this the ſtarboard braces be let go, the larboard ones prevail; if in the body a muſcle becomes paralytic, it's antagoniſt one contracts and diſtorts the part. It ſeems the general idea, that all our motions are performed by contractions of the muſcles, that theſe are produced by an influx of fluids into their parts; and, reſpecting how this brings about the effect, various have been the opinions; perhaps, if we can content ourſelves to derive information from an homely example, in the inſtance of a cord fixed at the ends, growing tight when wet with rain, and hanging looſe in dry weather; we may ſee the manner of animal exertions; perhaps the parts of the muſcle are more cloſely attracted to each other by the influx of the fluid, and this may bring about the neceſſary contraction.

The fineſt viſible nerves, under the moſt powerful microſcope, appear to be only bundles of ſtill finer ones, ſo that the ſmalleſt yet diſcovered have been computed to be 30,000 time finer than a hair.

Some have thought that the nerves, being ſo exceedingly fine, are not likely to be tubes conveying liquors. They aſſert, that all the ſo-

lids of the body are formed from the blood, and from that part of it called the coagulable lymph.

90. *Various Definitions, Obſervations, &c.*] The bones ſuſtain the other parts of the body, they ſerve as levers for the muſcles to act upon, and defend thoſe parts from external injuries that are of the greateſt conſequence to be preſerved, as the brain, ſpinal marrow, heart, &c. Every cylindrical bone contains a marrow for the purpoſe of ſoftening it, and rendering it leſs brittle; in young tender bones, the marrow is bloody, leſt, being too oily, it ſhould ſoften them too much; by their being hollow they are lighter, yet their diameters being kept large, they are leſs liable to be broke; which mechaniſm being yet more convenient for birds, the bones of their wings, and, for the ſame reaſon, their quills, have very large cavities; while the legs of other animals, and particularly of man, have their bones more ſolid for ſupporting of weight. Some inſects and fiſhes have ſhells inſtead of bones, which ſerve them alſo for defence, their muſcles being inſerted into theſe at a diſtance from the centre of motion of each joint; their motions are ſlow, ſtrong, and ſimple: therefore, in this ſort of animal, quickneſs of motion, where it is wanted, is procured by a number of joints, as may be ſeen in the legs of a flea; and variety of motion, by joints with different directions, as may be obſerved in a lobſter.

Muſcles are diſtinct portions of fleſh, which, by contracting, perform the motions of the body. Tendons are the ſame fibres, more cloſely connected, that they may poſſeſs leſs ſpace in a limb, and be inſerted in leſs room into a bone. We may conſider the fibres of the muſcles comparatively looſe, as flax on a ſpinning-wheel, and the tendons ſmall, but ſtrong, like the thread taking the ſpindle.

Ligaments are ſtrong inelaſtic ſubſtances, for holding together ſuch bones as have motion; and in ſome inſtances, as at the wriſt and inſtep, they bind down the tendons of muſcles, to increaſe their ſtrength of action.

Cartilage, commonly called griſtle, is a compact, elaſtic ſubſtance, almoſt inſenſible; with this the extremities of bones are covered, when intended to move upon each other, as in all the joints of the body; this having a finely poliſhed ſurface, lubricated with ſinovia, renders us inſenſible of friction, or rather prevents it; and, by it's elaſticity, prevents the injuries which would otherwiſe be inflicted on the joints, on many occaſions, as jumping, &c. The ribs are alſo connected to the breaſt-bone by cartilage, to give greater elaſticity and capability of contraction and dilatation; it is likewiſe principally concerned in the formation of the external part of the ear, being, from its elaſticity, more favourable for vibration and the conveyance of ſounds. We alſo derive an advantage from the moſt prominent part of the noſe being cartilaginous; were it conſtructed of bone, it would be ſubject to fracture from it's expoſure, and if of a more yielding texture, the noſtrils would not be ſo favourably dilated, for the receiving of effluvia, but would collapſe, or cloſe, when we attempted to draw in the breath through thoſe avenues.

Membranes

Membranes are moſt delicately conſtructed parts of the animal machine, they form the moſt ſmooth and advantageous linings to the ſeveral cavities of the body: the brain is included in a membrane which lines the cavity of the ſkull; the cheſt is alſo lined with a membrane called pleura; the abdomen is in like manner lined with a ſimilar one called peritoneum; the ſtomach and inteſtines are alſo compoſed of ſeveral diſtinct membranes, connected by veſſels, nerves, and fine filaments, or fibres. The true ſkin is connected to the body of every animal by what is called the cellular membrane, from its being compoſed of innumerable cells, or minute cavities, every where communicating with each other, ſo that air, or other fluids, being forced between the ſkin and muſcular parts, it readily diffuſes over the whole animal. Cellular membrane is ſo generally diſperſed throughout the animal ſtructure, that, like the cellular tiſſue in plants, it ſeems to be the general connecting medium. By this the expanded membranes are connected to the parts they line, the coats of veſſels are connected to each other, and even the fibres of muſcles are united by the medium of cellular membranes. The ſkin of the human body is every where covered with a fine, but inſenſible membrane, called cuticle; between this and the thick ſkin, called cutis, is ſpread a tender ſubſtance, which, from the ſlightneſs of its texture, ſcarcely can be deemed a membrane, called rhetum mucoſum; upon this depend the various complexions of different perſons: both the cutis and cuticle are the ſame in all, but it is the rhetum mucoſum which diſtinguiſhes the colour of the European, the Indian, and the African.

91. *Compariſon of Brutes with Man.*] Of all the tribes of ſublunary creation, quadrupeds ſeem to make the neareſt approaches to man, in their ſtructure and in their ſagacities. Of theſe, ſome of the monkey kind bear ſo near a likeneſs to him in their fabric, that anatomiſts have diſcovered very little difference in their internal conformation. Of the ouran outang, diſſected, and thus compared with man, it has been ſaid, eſpecially the tongue, and all the organs of the voice were the ſame, yet the animal was dumb; the brain was formed in the ſame manner with that of man, yet the creature wanted reaſon; an evident proof, that no diſpoſition of matter will give mind: and that the body, how nicely ſoever formed, is formed in vain, when there is not infuſed a ſoul to direct it's operations. Theſe imitative animals, from copying the manners of man, and being ſo like him in their figure, have in his eyes a wonderful air of ſagacity, which ſeems to give them a pre-eminence over the other parts of the brute creation; but they are perhaps equalled, or even exceeded in invention, docility, and attachment, by animals that ſeem of a far leſs perfect figure. If monkeys, in making their depredations on the corn, or the orchards of the huſbandman, plant centinels to give the alarm, in caſe of danger, this policy is obſerved generally by the other gregarious quadrupeds, in a ſtate of nature, and even by the birds, who might many of them teach the ape a leſſon of art in the nice conſtruction of their neſts; and if he do attempt, as ſome ſay, a ſort of hut, the awkward-looking beaver ſeems to very ich exceed him. Indeed the natives of thoſe countries, where this little animal exerts its ingenuity, from

their leading a roving life, ſeem ſcarcely to have leiſure to diſplay, on their wigwams, an architecture equal to that which the beavers beſtow on their huts.

The aſſociating together for repelling a powerful invader, is alſo common to the other gregarious animals as well as to apes; even the ſheep, in a ſtate of nature, unite together for the common defence, the ewes falling into the centre, the rams taking the poſt of danger, bravely defending them by help of their horns. Both the hind and fore limbs of animals, of the monkey kind, are furniſhed with a ſort of hands peculiarly adapted for the purpoſes of climbing: though in this exerciſe they are often ſeen upright in their woods, we are told, that they naturally run there upon all fours, and hence their palms and ſoals are equally beaten and callous; that when they are taken, their hands are tied behind them, to teach them to walk upright; that they learn this attitude after ſome time; and thus inſtructed, are ſent into Europe to aſtoniſh the ſpeculative with their near approaches to humanity, while it is never conſidered, how much is natural, and how much has been acquired in the ſavage ſchools of Benin and Angola.

This animal, ſo expert in imitation, ſeems exceeded in wiſdom by the unwieldy elephant; and muſt, in attachment and perſonal courage, yield, with all other brutes, to the dog, that faithful and conſtant companion of man, which rejoices in finding out and obeying the will of its maſter.

92. *General Analyſes, Obſervations, &c.*] The innumerable and various tribes of living creatures, which inhabit our globe are, aërial, man, the birds of the air, and the beaſts of the field; aquatic, fiſhes; and amphibious, thoſe animals which live both in the air and water, as ſerpents, frogs, and lizards, tortoiſes, &c. Inſects and worms may be conſidered as an inferior ſort of beings, creatures to be found in every habitable part of the creation: and ſome of them in their changes belong ſucceſſively to the waters, the earth, and the air. Myriads of minute creatures of this deſcription, inviſible to us, are found to inhabit places we might ſuppoſe deſtitute of life; where putrefaction prevails, theſe creatures have their reſidence; they ſwarm in the air, and a variety of fluids; they inhabit the green leaf, the bodies of living animals, and indeed almoſt every other ſubſtance that is not of adamantine hardneſs, or poiſonous quality. We hardly account their bodies as the fleſh of beaſts, of fiſhes, or of birds; they are without bones and blood; and have only a white ſerous fluid circulating through them in place of blood.

From our being accuſtomed, from our childhood, to behold living creatures moving in the waters, we get reconciled to the ſight, and hardly wonder how they exiſt without ſuffocation. Were we to judge of animal life, however, merely from the feelings we have of our own exiſtence, we ſhould fooliſhly pity them as oppreſſed by the denſe fluid wherein they reſide, and ignorantly account their ſituation unnatural; a ſlight knowledge of anatomy, however, ſhews us, that the reverſe is the caſe.

We have already ſeen in the circulation of the blood in the human frame, how the left ventricle of the heart throws it through the arteries to the remote parts of the body; how the veins take it up, and return it to the right ventricle; how this throws the crimſon ſtream reeking to the lungs, there to be fanned by the inſpired air, before it be again returned to the left ventricle. The hearts of other animals that live in the air, and that have red blood in their bodies, as beaſts and birds, are alſo formed with two ventricles, and their blood is in like manner hot. The heart of fiſhes and amphibia has but one ventricle, and their blood is cold; it therefore does not need to come in contact with the air, and it only runs, what the anatomiſts call, the ſhort circulation. Thus we ſee in the very different elements, the air and waters, how their inhabitants are naturally fitted for their reſpective habitations.

Naturaliſts, in contemplating and deſcribing the innumerable tribes of animals, have grouped them together in a variety of ways; they have claſſed them according to their places of habitation and ways of life, their outward forms and internal ſtructure, their teeth or bills, their legs, wings or fins, their manner of moving, &c. but whatever diviſions they may have made in the immenſe variety, and however obvious their diſtinctions may at firſt ſeem to be, the gradations between animals of the moſt oppoſite kinds are ſo minute and imperceptible, that, in attempting to draw the animated picture, many creatures preſent themſelves of ſo equivocal a kind, it ſeems hard to determine, whether they are inſects, birds or quadrupeds, fiſhes or beaſts: thus ſome of the ſmaller tribes of fiſhes, as well as beaſts, riſe from their humble ſtations, take wing and flutter through the air, as the flying-fiſh and bat; while ſome fiſhes appear but like inſects or worms, as ſhell-fiſhes and polypi; thoſe of the cetaceous kind, from the whale to the porpoiſe, have, like quadrupeds, cylindric bones, with marrow in them; like them, bring forth alive, and ſuckle their young; have their hearts ſimilarly formed; muſt frequently come to the top of the water to breathe, and would actually drown, if kept long under water. Hence ſome account theſe animals rather beaſts than fiſhes; and indeed the gradations, between beaſts and theſe kinds of animals, are ſo minute and indiſtinct, that naturaliſts are at a loſs where to draw the line betwixt them; thus in deſcending from the beaſts of the field to the inhabitants of the waters, they are firſt web-footted as the otter; they are partly covered with ſcales as the beaver; their limbs are incloſed in their bodies, the extremities only appearing in ſhape like fins, as the ſeal, or the morſe; they live upon ſhore as well as in the water; and, in fine, they are without fore feet as the manati, or are only furniſhed with fins, as the whale, and never come aſhore. To account for the continuance of theſe animals under water, ſeems attended with more difficulty than that of the true amphibia; ſome have ſuppoſed, that during the time they remain under water, the blood accumulates in the arteries, which dilate to receive it; and that by this means the circulation for a while keeps going on. There is another way of accounting for it, which, in many caſes, appears to be evidently the cauſe; between the ventricles of the heart

heart there is originally an aperture, called the foramen ovale, through which the blood is found to make the ſhort circulation, while the animal as yet continues in the womb; on the birth of the animal, when it begins to breathe, the foramen cloſes up, and the blood is thrown to the lungs, as already deſcribed. In ſome, however, as ſeals, the foramen is found open, and thus they are fitted for remaining long under water, by the blood circulating immediately through the heart, without being thrown to the lungs. Some birds alſo lead an amphibious ſort of life, as gulls, cormorants, ducks, geeſe, ſwans, &c. They, like the quadrupeds juſt mentioned, are web-footed for rowing in the wa er, and, like them, overtake their fiſhy prey in their own element.

It is lamentably true, that in ſome parts of the world, even man is reduced to the miſerable neceſſity of becoming an amphibious ſort of animal. Perhaps the gay and gaudy fair, glittering in their pearls, little conſider the pain it coſts ſome of their wretched fellow-creatures to procure the little bauble. The ſhining little gem is found in the ſhell, and ſometimes within the body of a large kind of oyſter. Some have imagined it proceeds from a diſeaſe in the fiſh. This concreted ſubſtance is found to be of the ſame kind with the inſide of the ſhell which incloſes it, and which is therefore called mother of pearl. There are pearl fiſheries in America, but thoſe of Aſia are more celebrated; and of theſe the chief is carried on in the Perſian Gulph. The wretched people, that are deſtined to fiſh for pearls, are either negroes, or ſome of the pooreſt natives of Perſia. They dive to the depth of fifteen fathoms, and continue at the bottom an amazing length of time. Some, as we are aſſured, have been known to continue three quarters of an hour under water without breathing; and to one unuſed to diving, a few minutes would ſuffocate the ſtrongeſt. Whether, from ſome effort, the blood burſts the old paſſage which it had in the fœtus, and circulates without going through the lungs, it is not eaſy to tell; but certain it is, that ſome bodies have been diſſected with this canal of communication open; and theſe extraordinary divers may be internally formed in that manner. If we conſider theſe wretched people in the midſt of their buſineſs, or experiencing the effects of their unnatural employ, we can, perhaps, hardly conceive a way of life more calamitous. Furniſhed with no other covering than a pair of gloves, to defend his hands, while he picks the oyſters from the holes in the rocks, and a net hanging down from his neck, to hold what he takes, the diver plunges to the bottom by help of a ſtone. Beſides tempeſts, and other dangers he has been expoſed to, he here becomes ſubject to ſuffocation; ſtaring monſters alſo, of enormous ſize, affright him in this wretched ſituation; and it is often in vain that he labours to conceal himſelf from their view, by ſtirring up mud at the bottom; he falls a victim to their voracity, and is delivered from his wretchedneſs. Theſe divers univerſally labour under a ſpitting of blood; the moſt robuſt and healthy young men are choſen for this employment, but they ſeldom ſurvive it above five or ſix years; their fibres become rigid; their eye-balls turn red; and they uſually die conſumptive. While, from the con-

ſtruction of the heart and lungs, in land animals, and even in ſome of the fiſhes, we at once ſee the air abſolutely neceſſary for their exiſtence; we are not to imagine, that the amphibia, nor even the fiſhes, which conſtantly keep under water, can live without air, though ſome of them are without any lungs at all. Thoſe who have ſeen a fiſh in the water, muſt remember the motion of it's lips and it's gills; this without doubt is analogous to our breathing.

Having conſidered the fitneſs of the ſeveral kinds of animals, from their internal ſtructure, for their reſpective elements, we may now obſerve their aptitude in other reſpects to their various manner of life.

93. *Quadrupeds.*] And firſt of quadrupeds; their heads, though differing from each other, are in general adapted to their way of living. In ſome it is ſharp, the better to fit the animal for turning up the earth, in which it's food lies, or where it finds ſecurity. In ſome it is long, in order to give a greater room for the olfactory nerves, as in dogs, who are to hunt and find out their prey by the ſcent. In others it is ſhort and thick, as in the lion, to increaſe the ſtrength of the jaw, and to fit it the better for combat. In thoſe that feed upon graſs, they are enabled to hold down their heads to the ground, by a ſtrong, tendinous ligament, that runs from the head to the middle of the back. The teeth of animals are entirely fitted to the nature of their food. The teeth in gramenivorous animals are edged before, and fitted for cutting their vegetable food. In the carnivorous kinds they are pointed, and fitted for holding or tearing. The ſtomach is generally proportioned to the quality of the animal's food, or the eaſe with which it is obtained. In thoſe that live upon fleſh, and ſuck nouriſhing ſubſtances, it is ſmall and glandular. In thoſe that live entirely upon vegetables, it is very large; and thoſe who chew the cud, have no leſs than four ſtomachs, all which ſerve as ſo many laboratories, to prepare and turn their coarſe food into proper nouriſhment. In Africa, where the plants afford greater nouriſhment than in our temperate climates, ſeveral animals that, with us, have four ſtomachs, have there but two.

Their legs are equally fitted to their wants or enjoyments. In ſome they are made for ſtrength only, and to ſupport a vaſt unwieldy frame, without flexibility, or beautiful ſymmetry. Thus the legs of the elephant, the rhinoceros, and the hippopotamus, or river-horſe, reſemble pillars. Deer, hares, and other creatures that are to find ſafety only in flight, have their legs made entirely for ſpeed; they are ſlender and nervous.

Their feet are alſo formed to ſuit their manner of life. They are furniſhed with fingers for holding, with claws for tearing, with membranes, or webs, for ſwimming, or with hoofs for traverſing extenſive tracts of rugged country. The porcupine and hedge-hog, covered with ſharp quills, or prickles, and the armadillo with ſcales, find ſecurity in coiling themſelves up, and preſenting theſe to the attacks of their enemies.

Their covering ſeems alſo adapted to their wants, or ſituations. The fox and the wolf, which, in temperate climates, have but ſhort hair,

hair, have a fine long fur in the frozen regions, near the pole. On the contrary, thoſe dogs, which with us have long hair, when carried to Guinea or Angola, in a ſhort time caſt their thick covering, and aſſume a lighter dreſs, and one more adapted to the warmth of the country. The beaver and the ermine, which are found in the greateſt plenty in the cold regions, are remarkable for the warmth and delicacy of their furs; while the elephant and the rhinoceros, that are natives of the line, have ſcarce any hair at all.

94. *Birds.*] Birds, next to quadrupeds, ſeem to demand our attention; and theſe appear equally adapted to their ſituations. Formed generally for a life of ſwiftneſs through the air, in place of fore feet, they are furniſhed with expanſive wings, which ſtretching out as they ſtrike downwards, and contracting as they raiſe them in their flight, they are thus enabled to ſupport themſelves in an element that is ſo much lighter than themſelves. Their bodies are ſharp before, for cleaving the air; their legs are light and ſlender, and, with their tails ſpread out, they ſteer themſelves as with an helm. As theſe beautiful creatures have to traverſe the regions of air, and regard objects afar off, their ſight is keen and piercing, their hearing quick, and their voices loud beyond that of other animals. Like quadrupeds, alſo, their different tribes are fitted for their particular ſtations and ways of life. The rapacious kinds, booted to the toes, are furniſhed with ſtrong hooked claws and beaks, notched at the end, for holding and tearing; the crane kinds, with naked and ſcaly legs, for wading in the water, and ducks, with ſhort ones, and web feet, for paddling or rowing; their oily feathers throw off the water from their bodies, and their bills are nervous at the point, that they may feel their food in the mud or water. Some, as the oſtrich, deſtined to keep on the ground, have ſtrong, muſcular legs, and are furniſhed with ſhort little wings, to help them in running. This largeſt of all birds, is ſaid to be rode on like a horſe, and vaſtly to exceed it in ſwiftneſs. Their ſtomachs are peculiarly formed to the quality of their food. In the rapacious kinds, the œſophagus, or gullet, is found replete with glandulous bodies, which ſerve to dilute and macerate the food, as it paſſes into the ſtomach, which is always very large in proportion to the ſize of the bird, and generally wrapped round with fat, in order to increaſe it's warmth and powers of digeſtion. In granivorous birds, the gullet dilates juſt above the breaſt-bone, and forms a pouch, or bag, called the crop. This is replete with ſalivary glands, which ſerve to moiſten and ſoften the grain, and other food, which it contains. After the dry food of the bird has been macerated for a convenient time, it then paſſes into the belly, where, inſtead of a ſoft, moiſt ſtomach, as in the rapacious kinds, it is ground between two pair of muſcles, commonly called the gizzard, covered on the inſide with a ſtony, ridgy coat, and almoſt cartilaginous.

95. *Amphibia.*] The animals, which compoſe the true amphibia, are but few; a ſhort deſcription of each kind may therefore here be attempted.

Tortoiſes chiefly live upon vegetables, but are alſo thought to eat inſects, ſnails, &c. Theſe harmleſs creatures, drawing in their heads beneath

beneath the ſhell, which covers them like a pent-houſe, find in it an aſylum againſt the attacks of their rapacious enemies; they are divided into two claſſes, the land-tortoiſe and ſea-turtle, from the places where they are chiefly found; their limbs alſo correſponding to their reſpective ſtations, in one being clawed for walking on the land, in the other forming a ſtrong kind of paddles, for urging their way in the deep; both however are found to be amphibious.

Frogs and toads, while in their tadpole ſtate, live upon the weed their pool ſupplies; when grown to maturity, their food is inſects and worms, for which they leave their native element, and come upon land; there they lurk beneath the cool canopy of an herb, and waiting for their prey, till it comes within their reach, with the moſt unerring aim, dart out their long and forked tongue, which is covered with a glutinous ſubſtance; to this the little animal adheres, and is thus drawn into the jaws of it's devourer. It is entertaining to obſerve, how differently frogs are regarded in this, and the neighbouring iſland; in Ireland, where there are neither toads nor venomous creatures, girls at their hay-making, will take them up, and play with or ſtroak them as they would little birds; but in England, many turn from them with averſion, and generally they are cautious in handling them, for fear of meeting with the toad through miſtake. The agility of the frog, however, and it's bright and poliſhed ſkin, might obviouſly diſtinguiſh it from the dark and crawling toad, were there real danger in meeting with the latter; but the toad is found to be harmleſs and inoffenſive, ſometimes taking up it's reſidence near the habitations of man, and if encouraged to it, even venturing into his dwelling, to be fed at his hand. The frog is remarkable for changing with the weather, it's colour becoming dull, when the atmoſphere is dry, and it wants the grateful humidity which moiſtens it's ſkin, and renders it alert and active. It has been kept and fed, to anſwer the purpoſe of a weather-glaſs, being heard to croak at the approach of wet weather, but mute as a fiſh when it threatened a continuance of fair. But of all the wonders related in natural hiſtory, that of the toad's being found alive and healthy in the heart of trees and ſolid rocks, without the ſmalleſt opening from it's cell, ſeems the moſt aſtoniſhing; there it has been ſuppoſed to have had a torpid ſort of exiſtence for ages; but how the egg or ſpawn which produced it, firſt found admittance, is not eaſily accounted for. Into ſtone we muſt ſuppoſe it found it's entrance, while the ſubſtance was yet ſoft and unpetrified; but how ſhall we account for it's finding it's way into a tree? Cabinet-makers remark, of ſo cloſe a wood as mahogany, which grows in ſandy ſoils, that the ſand which has got into the ſubſtance of the wood, ſoon dulls the edge of their plane irons; and if this be embraced by the fibres of the root of the tree, and aſcend with it in it's growth, may not the minute and embryo toad find a ſimilar admittance?

Of the lizard kind, the animals are various; in this claſs we find crocodiles, dragons, ſalamanders, and cameleons, creatures whoſe real hiſtory may afford entertainment to the contemplative; but to this, romance has added much of the marvellous. Thoſe who have ſeen the little four-footed evet, newt, or arglogher in our ditches, with it's body

body terminating in a tail, may from it form a pretty juſt conception of the figure of theſe animals, from the alligator of the river Amazons, of twenty-ſeven feet, to the ſmall cameleon but one inch long. The cameleon is ſometimes eleven inches long. It has been ſaid to feed upon the air; from this it ſeems to receive great refreſhment; it is ſomtimes ſeen as it were blown up for two hours together, and then it continues growing leſs and leſs inſenſibly, till it appears quite lean and emaciated; but the air only gets between the muſcles and the ſkin; for the muſcles themſelves are never ſwollen; it is hardly ever obſerved to eat any thing, except now and then a fly, which it takes half an hour to ſwallow; like the frog, it takes the flies with it's tongue, which is as long as it's whole body. As this animal's ſkin ſuffers ſuch changes, from it's being puffed up, or only contracted, we need not ſo much wonder, when we are informed, that though naturally of a grey colour, it exhibits, when placed in the ſun, a greater variety of colours, than are ſeen in ſilks of the moſt variegated colouring. It is perhaps the moſt extraordinary part of this animal's hiſtory, that it can move one eye ſingly, or turn them both in different directions, thereby looking two ways at once. The leſſer lizards appear generally to be harmleſs, playful, little animals, though, like the toad, they be accounted venomous. Of this claſs of creatures, is the flying dragon; it's wings are very thin, reſembling thoſe of a flying fiſh; and about it's neck are a ſort of wattles, not unlike thoſe of a cock; this harmleſs little creature, which lives chiefly upon inſects, and even ſeems to embelliſh the foreſt with it's beauty; we can hardly ſuppoſe that it ever gave birth to the fiery dragon of romance; this death-dealing creature ſeems rather to have taken it's riſe from the ravages of ſerpents. Salamanders appear leſs active and beautiful than the lizards of the cameleon kind, but equally harmleſs; with appetites and manners nearly the ſame, though fear has charged them with deadly venom; and imagination has even given them an habitation in the fire, a place, they can endure about as well as a fiſh.

The iguana is a lizard about five feet long, and the body about as thick as one's thigh; the ſkin is covered with ſcales like a ſerpent, the back furniſhed with a row of prickles, that ſtand up like the teeth of a ſaw, and the jaws are full of very ſharp teeth. This animal, though apparently formed for combat, is a harmleſs creature, ſporting in the water, or living among trees, feeding upon the flowers of the mahot, and the leaves of the mapou, that grow along the banks of the ſtream, and repoſing upon the branches of the trees that hang over the water. It's fleſh may be conſidered as the greateſt delicacy of Africa and America; and the ſportſmen of thoſe climates eaſily take it by help of a nooſe and a ſtick. The ſcaly lizards are of various ſizes, from the iguana to the formidable crocodile, that unpeoples countries, and makes the moſt navigable rivers deſart and dangerous.

But of all the animals that frequent the waters, or inhabit the foreſts, ſerpents ſeem moſt to repreſs the audacity of man, and to reſtrain his vagrant excurſions. Againſt the force or rapacity of other dreadful creatures, arts and arms have been oppoſed with ſucceſs. The monſters of the deep have been drawn from their watery element, and their

their ſpoils converted to many uſeful purpoſes in life. Lions and tigers, with all their ferocity; the elephant and rhinoceros, encompaſſed with ſtrength; and even the crocodile, with all it's terrors, have been taught to ſubmit to the rein, to ſwell the pomp of monarchs, or rage among the tumults of mankind; but ſerpents, furniſhed at once with the moſt dreadful weapons of annoyance, and the moſt eluſive means of eſcape, ſeem in all ages to have baffled the proweſs of the lords of the earth. It is the moſt ſtriking character in the natural hiſtory of Ireland, that it does not give birth to theſe venomous creatures. Superſtition has aſcribed this to the prayers of the miſſionary Patrick; but as Ireland produces herbs, poiſonous as well as nutritive and medicinal, perhaps there only wants an importation of ſerpents, to ſhew, that that iſland is as liberal in the ſupplies of life, as other countries are. The frog was deſignedly brought into Ireland, and ſoon multiplied to an amazing degree; and if, by accident or deſign, vipers were introduced, the people might ſoon have to be as cautious in piercing through a wood, or lolling on a bank, as other European nations.

The ſerpents of Europe, however, are few, feeble, and diminutive, compared with thoſe of the other quarters of the globe. In the warm countries, that lie within the tropics, where the climate ſupplies warmth and humidity, theſe creatures grow to an enormous ſize, and multiply in aſtoniſhing abundance. All along the ſwampy banks of the Niger and Oronooko, they are ſeen twining round the trunks of trees, and carrying on an unceaſing war againſt all other animals in their vicinity. Againſt one of theſe dreadful monſters, grown through ſucceſſive ages to one hundred, or one hundred and fifty feet long, the lion, or the tiger, and even the elephant himſelf, ſhould ſeem but feeble opponents. We need not, therefore, ſo much wonder at the accounts of the ancients, of a whole nation ſometimes ſhrinking from the ravages of a ſingle ſerpent, when as yet, they had not learned to combine their efforts together in oppoſing it. Even in more improved antiquity, we are told, that while Regulus led his army along the banks of the river Bagrada, in Africa, an enormous ſerpent diſputed his paſſage over, and deſtroyed many of the army; and was not ſubdued, till the battering engines were brought out againſt it. Theſe aſſailing it at a diſtance, it was ſoon deſtroyed. It's ſpoils were carried to Rome, and the general had an ovation decreed for his ſucceſs. We are aſſured, that it was one hundred and twenty feet long, by Pliny, who ſays, he himſelf ſaw the ſkin, which was kept in the capitol. And we have recent accounts from travellers, that there are ſerpents at this day, which, in ſpite of all oppoſition, combat with, and deſtroy the tiger and the buffalo. In this dreadful engagement, their teeth are but of little uſe; it is by the ſtrong verberation of the tail, by twining it's body round that of it's antagoniſt, and drawing the knot with convulſive energy, the enormous reptile breaks every bone in the quadruped's body, and then at one moſel devours it's prey. In fact, the largeſt kind of ſerpents are none of them venomous, and many of the ſmall kind are harmleſs and inoffenſive. In Africa, they are received under the protection of the natives, and are

ſeen

ſeen in their houſes clinging to the roofs, unmoleſting and undiſturbed. In ſome parts, they are idolized, as the tutelar deities of the country, and have their temples, their prieſts, and their ſacrifices. In Aſia, theſe beautifully coloured animals meet with equal kindneſs; and even in Italy, the Eſculapian ſerpent, which is one of this kind, is conſidered as a uſeful domeſtic for deſtroying the mice; there it is ſuffered to crawl about the chambers, and ſometimes it even creeps into bed to the people.

The venomous ſnakes are diſtinguiſhable from the other, by two large teeth or fangs, that hang out beyond the lower jaw; they grow one on each ſide, and ſometimes two, from two moveable bones in the upper jaw; by ſliding theſe bones backward or forward, they have a power of erecting or depreſſing the fangs at pleaſure. The glands, that prepare the venomous fluid, are ſituated on each ſide of the head, behind the eyes, and have their canals leading from thence to the bottom of the fangs in the upper jaw, where they empty into a kind of bladder; the fangs are hollow within, and have an opening towards the point like the ſlit of a pen, through which, when the provoked animal erects theſe dreadful weapons, ſtrikes them into it's enemy, and thus preſſes them down upon the bladder, the venom makes it's way into the wound. It is remarkable, that a ſmall drop of this venom, thus inflicted, ſhall contaminate the whole frame, if a cure be not adminiſtered; yet a quantity of it may be taken inwardly without any harm; but, in fact, to introduce any fluid into the circulation of the blood, that has not been prepared in the elaboratory of the ſtomach, and ſecreted by the lacteal veins, is enough to deſtroy the body; even milk, that ſeems the moſt mild and nouriſhing of all fluids, if it be injected into a vein, it will quickly become fatal, and kill with more certain deſtruction than the venom of a viper. Serpents have a moſt wonderful capacity of ſwallowing creatures of greater thickneſs than themſelves; their jaws are held together at the roots by a ſtretching muſcular ſkin; by which means, they can open them extremely wide; the throat, like ſtretching leather, dilates to admit the morſel; the ſtomach receives it in part; and the reſt remains in the gullet, till putrefaction, and the juices of the ſerpent's body, unite to diſſolve it. After thus gorging itſelf, the animal becomes quite heavy and torpid; the naked Indian then ventures to aſſail it, and deſtroys it at his pleaſure. Theſe animals, though thus voracious, are capable of enduring the longeſt abſtinence.

From the long and ſlender form of the ſerpent, we might be induced to imagine, the motions and ſtructure in it, and the earth-worm, were ſimilar to each other; in theſe, however, they are very different. The ſerpent has a great number of ribs, and a back-bone with numerous joints, which it cannot ſhorten or lengthen, though it has a power of bending it in every direction. This animal, therefore, in it's progreſſion, muſt bend it's body, and throw itſelf forward by it's ſpring. The earth-worm, on the other hand, has no back-bone, but a number of rings, or a ſpiral muſcle, that runs round it's whole body from head to tail; it therefore can lengthen or contract itſelf; can ſtretch out the ſlimy fore-part of the body; with this ſtick to the ground; and then by

by contracting itſelf, bring up the rear. The amphibia are remarkable for frequently caſting their ſkins, and are found to be extremely tenacious of life.

96. *Fiſhes.*] Fiſhes are a claſs of creatures, that appear, both in ſtructure and ſagacity, quite inferior to other animals; though capable of enduring famine an amazing length of time, they appear moſt voracious creatures; a ceaſeleſs deſire for food ſeems the ruling impulſe of their actions; and their life one continued ſcene of violence or evaſion.

Fiſhes are formed for making their way through the water, in a manner ſomewhat ſimilar to birds for cleaving the air; in place of wings they have fins; they are alſo furniſhed with a ſpreading tail; this laſt ſeems to give the grand impetus in their motions; and to this the fins ſeem ſubſervient in ſteering the animal. We have ſeen among the amphibia, a kind of animals furniſhed with venom, without being themſelves deſtroyed thereby. Among fiſhes, the torpedo, and ſome others of the ray kind, afford ſomething ſtill more wonderful in their hiſtory; theſe animals have the power of ſtriking the perſon who handles them with numbneſs; if he even but touch them with the end of his ſtick, he feels the ſhock; which, from it's effects, and from this circumſtance, appears to be electrical; but how the animal prepares the charge, and how it keeps it from diſcharging in the denſe fluid it reſides in, ſeems quite unaccountable.

Fiſhes and amphibia are produced from ſpawn, from eggs, or are brought forth alive.

It is remarkable of many tribes of the brute creation, eſpecially of the lower orders, that at certain ſeaſons, eſpecially on the approach of winter, when they are debarred from food by the ſeverity of the weather, they ſeek themſelves retreats, and go to ſleep; where they continue in a torpid ſtate, apparently dead, till the coming of warm weather, which again calls them, to enjoy a more active, enlarged life; and to feed on the banquet the ſeaſon ſets before them. In this way, fiſhes are ſaid to be bound up by the froſt in the northern rivers of the world, till the return of the ſun thaws their priſon, and reſtores them to their former liberty. We may perhaps conclude, however, that they are rather lying dormant in the water under the ice, than frozen up in it; ſo great an exceſs of cold, ſhould ſeem too intenſe for any deſcription of animal life to endure.

97. *Inſects and Worms.*] Inſects, and animals of the worm kind, ſeem to form the loweſt order among the various tribes of living creatures which inhabit our globe: of this deſcription we may reckon all thoſe which have not red blood circulating through their bodies, whether it be the kraken of the Norway ſeas, a mile and a half in circumference, raiſing itſelf in the water, it's antennæ or arms, at firſt appearing like a number of ſmall iſlands, and then like a foreſt of prodigious large trees; or the animalculæ, which, from it's minuteneſs, eſcapes our ſight, and which in ſlaking our thirſt, we may ſwallow by thouſands; whether it be the ſnail or the lobſter, the flea or the ſcorpion, the worm or the fly.

Whatever has been related of the veracity of the amphibia, their tenacity of life, or their frequently caſting their ſkin, ſeems peculiarly to hold in the lower claſs of animals; among theſe, the tearing away of a limb, appears to be but a ſmall calamity: the lobſter, the crab, the ſpider, and others, frequently, in their combats, meet with loſſes of this kind; but they ſoon grow again. This ſeems extraordinary; but what ſhall we ſay of thoſe that ſeem to multiply even by deſtruction?

The earth-worm, when cut in two, is ſeen to become two diſtinct creatures; from the head end, a tail is ſoon found to iſſue; and from the tail part, by ſlower degrees, a new head proceeds: but animals of the polypus kind, ſeem to offer, in their hiſtory, ſomething ſtill more aſtoniſhing: theſe creatures, which appear like vegetable ſubſtances floating on the water, are found to be real living animals hunting their prey. The body of this animal appears like a bag, ſurrounded at the mouth with a number of antennæ, or arms, with which, as feelers, it finds and draws in it's prey; theſe it can contract or lengthen at pleaſure, and, indeed, it's whole body ſeems capable of the ſame dilatation or contraction; ſo that it's form is ſcarcely fixed or certain, but changes in ſize and figure, according to it's motions, or the variations of heat and cold. On their bodies are diſcovered a number of wart-like protuberances, which are found to be themſelves young polypi, feeding and fiſhing for themſelves, while they, at the ſame time, derive nutriment from the parent; theſe, every now and then, drop off to make way for others, and to become themſelves. the heads of ſimilar colonies, which even begin to bud before the ſeparation from the parent in maturity. Some may wonder at the magnitude of the elephant, and others be aſtoniſhed at the ſmallneſs of the animalcule; but of all the animals that are found in the creation, the polypus ſeems moſt a prodigy to the philoſopher; it has been twiſted and twined, and turned inſide out; it has been cut to pieces, both lengthways and croſſways, ſtill it was found to retain it's vivacious principle, each part becoming an animal of itſelf, and, like it's original, the parent of a colony.

As theſe animals ſeem the moſt imperfect in their formation, ſo they offer a wonderful variety in their ſize and their ſhapes. The kraken is ſaid to be an enormous polypus, and ſponges, with the ſtrange variety of coralline ſubſtances which appear like plants in the ſea, and in ſome parts obſtruct navigation by their growth, are all accounted the fabrications and cells of minute creatures of the polypi kind. To underſtand how they are capable of rearing ſuch works, and indeed, how all ſhelled animals are furniſhed with their covering, it is neceſſary to obſerve, that their bodies are ſupplied with a ſlimy matter, which, as it ouzes out, and ſometimes, perhaps, joins with extraneous ſubſtances, acquires the coralline conſiſtency, the toughneſs of ſponge, or the hardneſs of ſhell. In this way the lobſter obtains it's caſing; and in this way the ſnail is obſerved, as it grows bigger and bigger, to add layer to layer to the mouth of it's ſhell, until it has obtained it's largeſt volution.

Among the amphibia, we have ſeen ſerpents furniſhed with venom; among

among inſects there are creatures furniſhed with ſimilar weapons: the ſcorpion has been noted from antiquity for it's venom; and the ſpider, however harmleſs it may appear to us, is furniſhed with a poiſon under it's claws, ſufficiently deſtructive to the minute creatures it preys upon; but of all the ſpiders we have ever heard of, the moſt extraordinary things have been related of the tarantula; this animal is about three quarters of an inch long, and in the fields of Italy, ſometimes bites the peaſants as they are mowing down the graſs; a ſlight inflammation enſues, as from any other puncture, which heals without danger; they affect, however, to feel, on this occaſion, a variety of extraordinary ſymptoms and paſſions, only to be removed by the powers of muſic. This deception has long been impoſed upon the reſt of Europe, but is now well known to be all a colluſion. The credulous traveller however, who wiſhes, when from home, to ſee all that is marvellous, may at this day, for a trifle, be entertained with the extraordinary farce: the actors produce this famed little inſect, and one of them ſuffers himſelf to be bit; he alternately appears to be convulſed with laughter, and depreſſed with melancholy; the fidler then adminiſters the never-failing tune; he begins his air eaſy and ſlow, and riſes and quickens by degrees, till at laſt he ſees his dramatic patient dancing on the floor; and thus concludes the unbecoming farce.

Many are the volumes that have been written on the hiſtory of inſects; and ſome have been ſo much enamoured with the ſubject, as to purſue it with a diligence, equal to that of the bee or the ant they contemplated. They have minutely examined the formation of theſe little creatures, at the ſeveral periods of their exiſtence; they have obſerved them as worms breaking from the egg, or the body of the parent; as crawling about in their reptile form; as being entombed for a time in their aurelia or chryſalis ſtate; as burſting from this priſon, and enjoying an enlarged exiſtence; and as buſily employed in depoſiting their eggs in the earth, and other places, to be ripened into life by the return of ſpring; their aſſociations and animoſities, their arts and their manners, they have watched and deſcribed, and the picture is ſomewhat ſimilar to that of the higher tribes of animals: among theſe, there are graminivorous creatures, harmleſs and weak; and among theſe, predacious and vindictive deſtroyers, furniſhed with formidable weapons, and caſed in dreadful armour, which, unrelentingly, deal death among the feeble and the helpleſs. Some of theſe minute animals have been rendered ſubſervient to the uſes and luxuries of man, as the cantharides, the bee, the ſilk-worm, and the cochineal fly; but, in general, from the havock they make among vegetables, he regards them rather as enemies than friends.

Inſects ſeem, ſome of them, to have no eyes at all; ſome appear to be furniſhed with two; and ſome with a great many; but, like the fiſhes, without any eye-lids: their mouths, in general, open in a direction contrary to that of other animals; and ſome of them are furniſhed with a proboſcis or trunk. Other animals generally breathe through the mouth, theſe have been found to breathe through openings in their ſides, and an air leſs pure, or a nitrogenous air that would ſtifle the more perfect animals, but nouriſh plants,

ſerves theſe creatures for the purpoſe of reſpiration. But of all the marks whereby they ſtand diſtinguiſhed from animals of the higher orders, a perfect want of docility, or an utter ignorance of, and inattention to, the will of man, appears the moſt ſtriking. Quadrupeds and birds have been brought to be very tractable and attentive to inſtruction; and even ſerpents have been taught to come at a call, and perform a variety of motions at command; but theſe unintelligent creatures, and with them we may reckon fiſhes in general, ſeem altogether incapable of varying their actions, or of ſubmitting to inſtruction, and only regard man like any larger animal; only obſerve him to flee from his preſence, or to feed upon his body.

98. *Obſervations on the Practice of Anatomy.*] Inaſmuch as anatomiſts, in their reſearches in the animal economy, have not confined themſelves to dead creatures, I cannot be ſatisfied to quit this ſubject without entering my proteſt againſt the abuſes, the ſufferings impoſed on the brute creation. We are fellow-partakers with the brutes of of the chequered tiſſue of animal life: both they and we are ſuſceptible of pain and pleaſure, of health and ſickneſs, and of the effects of toil and reſt. Why ſhould we impoſe, on them, pain, labour, or ſuffering, which we would not be willing to undergo ourſelves, in proportion to our ſtrength? The act is unfair.

Of all the ſpectacles upon earth, the ſeduction to vice excepted, that of a being, of ſuperior intelligence and power, torturing an inferior animal, ſeems to be one of the moſt abominable. When the tyrant, with impious hand, inflicts pain upon his ſlave, the latter can raiſe his voice and plead with his oppreſſor; or, indignant under ſufferings, can vent forth his anguiſh in words, perhaps feels ſome little ſatisfaction in reproaching the tyrant; but the brute cannot ſpeak: writhing under torture, it may caſt it's eyes on it's tormentor; but it is in vain: the experimentaliſt is at eaſe; he feels no pain; he has a curioſity to gratify, a diſcovery to make, a theory to eſtabliſh, which may be uſeful to mankind, and he muſt watch it through all the ſtruggles of expiring life, which he protracts or haſtens as may beſt anſwer his purpoſe. It ſeems to be unhappily too prevailing a ſentiment, that we have a right to inflict pain on the brute creation, for the promotion of ſcience, for the obtaining of an advantage to the human ſpecies. If ſtrength conſtitute right, our prerogative is indiſputable; but a merciful man will ſhew mercy to his beaſt, and a juſt man cannot injure it. In the preceding account of animals, I have not conſciouſly brought forward any information, which might not have been obtained, without the infliction of pain on the brute creatures: and unworthy is the legiſlature which permits them to be injured, to be badly accommodated, to be put off with a ſhort allowance of provender, to be cruelly beaten, to be worn down with exceſſive labour, to be tortured by the naturaliſt, by that ſanguinary creature, the ſportſman, or by that burthen of ſociety, and of creation, the epicure, or voluptuary.

I paſs haſtily over theſe latter characters, (their crimes or miſtakes are too obvious to thoſe who think at all, to need pointing out) and return to the naturaliſt, who, toiling for the public good, has

more

more ſpecious arguments for his deeds. It may ſeem unreaſonable to object a practice from which ſuch curious and uſeful information has been obtained, without attempting to point out ſome other mode; if, then, the numerous accidents which happen, do not afford ſufficient opportunity for obſervation on living ſubjects, and if we might ſuppoſe it allowable to interrupt or deſtroy any of the parts of the animal frame before death; it ſhould ſeem moſt reaſonable and moſt juſt, for the philoſophers to give up their own living bodies for illuſtrative experiments. What an heroic exhibition, to ſhew ſuch a character plunging into a noxious atmoſphere, under the apprehenſion of being drawn out again, half ſtifled, or ſwallowing a newly diſcovered drug, to aſcertain it's medical properties; to ſee him preſent his body to the knife, have his bones laid bare, his viſcera expoſed to view, his limbs rendered paralytic, by ligatures on his nerves or arteries: what a ſpectacle to ſee him enduring ſuch excruciating pains for the good of ſociety! The advantage, attending ſuch an act, would be, that he could tell what his ſenſations were in the courſe of the experiment, whereas, in the brute, they can only be gueſſed at.

Moreover, though the body of the man might be maimed or mutilated, his mind might remain whole; but the poor brute, having loſt it's corporal powers, is accounted good for nothing.

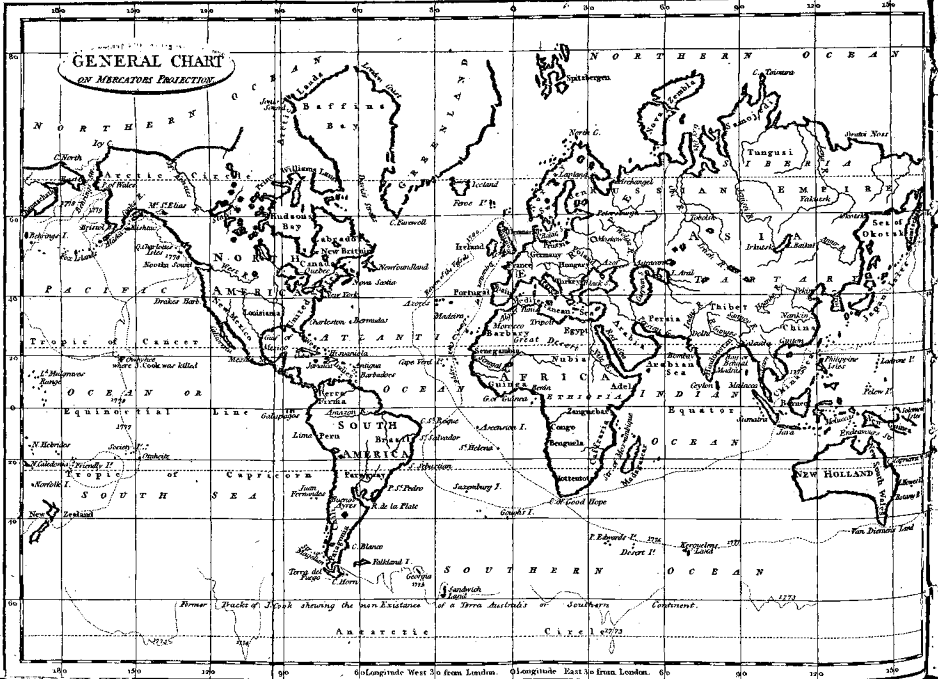
At leaſt, let the philanthropic philoſophers bequeath their bodies after death for diſſection; and let them endeavour, in their life time, to promote the belief among the people, that they ought to give up every idea of private property in the bodies of their deceaſed friends; that they owe them to the public, if any advantage can be derived from them. We ſee the great ones of the earth, from motives of vanity, conſent to having the corpſes of their deceaſed relations cut up, in having them embalmed; why might not the people at large, from this better conſideration, be brought off from their prejudices?

A ſufficient inducement to theſe remarks, is the conſideration that this work is to take a place in the libraries of ſeveral of the authors medical and chirurgical friends. The conſideration of it's being beſpoken by many encouragers and governors of public inſtitutions, induces ſome further remarks, ſome further calls for charity. On the former, I call to prevent the dying pang of the brute; on the latter, to ſpare the dying ſigh of the poor.

If there be ſuch a thing as a pious fraud, it muſt be an impoſition or deception from which good cometh, and no evil enſues. The ſtealing of dead bodies, for diſſection, has very much this appearance. Much uſeful information is obtained from the practice: but it occaſions great unhappineſs; even the diſſectors themſelves would be unwilling to cut up the dead bodies of their deceaſed relations and friends; then how diſtreſsful, how agonizing muſt be the idea, in people of weaker minds, that the remains of their kindred, which they, in great affliction, committed to the duſt, may be rooted from their graves, and diſpoſed of in ſuch a way. Even the bed of death may be embittered by the apprehenſion of ſuch things; for, it is known, that even the dying, in theſe awful moments, ſometimes have a wiſh reſpecting the diſpoſal of their bodies. Now ye governors of hoſpi-

tals, if ye be really influenced by motives of benevolence, let your charity be complete: ſuffer not thoſe who die under your care, to feel the apprehenſion that their remains ſhall be rudely handled after their deceaſe. It is an infirmity of the mind, to take any thought about our remains; but, till the infirmity be removed, have compaſſion on it's poſſeſſor. By the moſt unequivocal proofs, let it be eſtabliſhed and known, that ye permit not the bodies of your deceaſed patients to be given to the ſurgeons. Behold the law regards the act as one of the moſt ſevere of all puniſhments; and ſhall the poor, who have ſought refuge in your aſylum, be afflicted on their ſick beds, with the apprehenſion of theſe imaginary indignities? indignities to many more dreadful than death. Thoſe who in their dying moments are encircled by their weeping relatives and friends, and have the weakneſs to feel theſe apprehenſions reſpecting their bodies after death, can mention their fears; the relatives will make haſte to promiſe, that ſtrict watch ſhall be kept over their graves, and will pioufly fulfil the engagement, but the poor ſtranger in the hoſpital, far from his friends, has no ſuch conſolation. Poor and diſpirited, he opens not his mouth, he even fears to think on the ſubject; but though he keep ſilence, he cannot keep his imagination from the diſtreſsful proſpect: he regards with jealous, though languid eye, the very man who comes to his ſuccour; thinks he will ſhortly be plunging his hands into the inmoſt receſſes of his body, and exhibiting it, all mangled and torn, to thoſe who have not lamented his death, who knew him not when living! He thinks of his far diſtant home, and of the people, who would ſacrifice their lives rather than ſuffer theſe indignities, were it in their power to prevent them. Agitated by different paſſions, the medicines loſe their effect. Wavering, as between heaven and earth, the ſpirit of the drooping ſufferer, deſerted by man, may feel that better hope, which can alone bear him up; he may feel his ſtrength revive under it, and be reſtored to his friends; or he may feel it to ſweeten the bed of death: of this conſolation ye cannot deprive him.

PART


GENERAL CHART
ON MERCATORS PROJECTION.
NORTHERN OCEAN
Baffins Bay
GREENLAND
Spitzbergen
Nova Zembla
Iceland
Arctic Circle
NORTH AMERICA
SOUTH AMERICA
RUSSIAN EMPIRE
SIBERIA
ASIA
TARTARY
AFRICA
NEW HOLLAND
New Zealand
PACIFIC OCEAN
ATLANTIC OCEAN
INDIAN OCEAN
SOUTHERN OCEAN
Tropic of Cancer
Equinoctial Line
Tropic of Capricorn
SOUTH SEA
Antarctic Circle
Former Tracks of J. Cook shewing the non Existance of a Terra Australis or Southern Continent.
60 Longitude West 30 from London. 0 Longitude East 30 from London. 60

PART III.

PICTURESQUE AND GENERAL SKETCHES OF THE DIFFERENT PARTS OF THE EARTH; AND THE VARIED APPEARANCES AND MANNERS OF ITS INHABITANTS, BOTH MAN AND BRUTE.

SECTION IX.

Of the Diverſity produced by Climate and Domeſtication; Reduction of Mankind into three Grand Diviſions, and Eſtabliſhment of a Colony at Botany Bay.

IF we take a general view of the regions of the earth, we ſhall find, that from the variety of climates, of ſoils, and from many other cauſes, life and it's conveniences are variouſly ſupplied, and in very different meaſures, in the ſeveral habitable parts of our globe: from the prodigious ridgy mountains, and extenſive ſandy deſarts, or the ever flouriſhing and luxuriant landſcapes at the equator, where the moſt exquiſite and delicious fruits ſpontaneouſly grow in exuberant profuſion; where the waters and the ſavannahs, the fields, and the foreſts, all teem with life. From theſe glowing climes, to the cold and frozen pole, where life and vegetation ſeem quite extinct, and the earth and the waters are ſtiffened in frigidity; all along the convexity of the globe, the ſcene is ever changing, and man as well as brute, and beaſts as well as plants, all are influenced by the variety.

99. *Diverſity of Figure in Man and Quadrupeds.*] The changes that the human ſpecies have undergone, from the difference of climate, ſoil, food, manner of life, and other accidental cauſes, are aſtoniſhing, inſomuch, that ſome have called in queſtion our common conſanguinity. However, when we conſider how regular and ſlow the gradations are, from the black complexion to the brown, from this to the

fair, generally varying by imperceptible degrees with the climate, we ſhall perhaps have but little reaſon to ſuppoſe it neceſſary, that different ſpecies of men ſhould have been created, to produce the variety obſervable at this day.

That climate is capable of operating very powerfully upon man, may rather ceaſe to be marvellous, when we conſider how much more the lower orders of the creation are affected by it's influence; in fact, many of theſe are confined to particular countries and climes, and are found no where elſe, while man, the child of every climate, and tenant of every ſoil, inhabits the different regions of the earth, from the accumulated ſnows of the cold and frozen poles, to the glowing tracts of the torrid zone. It is true, he has many arts of evading the ſeverities of inclement ſkies, with which the brute creation is unfurniſhed; and this ſeems to give him a ſuperiority, which alſo the domeſtic animals derive from his protection, and are thus enabled to accompany him in his peregrinations. By his ſuperior intellects, rather than finer formation, he is enabled to become the lord of the earth; by theſe, by aſſociation, and by labour, which is his lot, he has reduced the beaſts of the field to his obedience; by theſe, the howling ſavage, that would alike prey upon him and his flock, he has driven to the diſtant receſſes of the wilderneſs; by theſe, he is enabled to form and guide the crooked plough, the canoe, or more ſtately bark; to traverſe the expanſe of unfathomable waters; to draw bread from thiſtle and thorn-producing ground, till he return thereto; and by theſe, notwithſtanding the living creatures, and even the elements, ſeem to offer violence to his perſon and his labours, he finds the earth has been given him for his habitation, and the ſea for an inheritance. To deſcribe the perſons of the people of our own nation, would be exceedingly difficult, and might here ſeem ſuperfluous; as the beſt method of acquiring the information, is by looking about us; it is however curious to obſerve, in thoſe countries where arts and ſciences are cultivated, and where the manner of life is conſequently various among the inhabitants, the variety of figure, ſtature, and complexion, that is found in their perſons. How different, in their appearance, is the man who works in the fields, or at ſome laborious buſineſs, from the ſtudent or minute artiſt, effeminated and pale by their employ within doors, or the cit, grown fat with luxurious living. What different habits are impoſed on their conſtitutions, and how different the effects they naturally produce: but theſe different diſtinctions, however they may hold in general, do not invariably mark the individual; this indeed can hardly be expected, where theſe different deſcriptions of people are ſo conſtantly intermixing with each other. Among theſe, therefore, we ſhould hardly expect, that their outward figure ſhould nationally characteriſe them. Though the Frenchman ſeems to differ rather in perſon from his neighbours, the Hollander or Spaniard; and though the moſt ancient inhabitants of theſe iſlands, may ſometimes be thus diſtinguiſhed from the more mixed and later Engliſh, yet the difference ſeems often ſo minute, as to eſcape deſcription, and what an aſſimilation in their manners, ſeems continually to render leſs and leſs diſtinct. It is among people who are collectively alike in their manners and circumſtances

cumſtances in life, we may look for national characters; and thoſe nations that live more at large than the ſons of Europe, that individually draw an eaſy ſubſiſtence from the kindly ſoil they inhabit, or equally labour under the ſeverities of inclement climes; that without diſtinction haſten to the waters, or join in the chace; ſeem generally to be ſtrongly marked with figure, complexion, and features, characteriſtic of the climate or ſoil they inhabit. Beſides this, particular tribes, and ſometimes whole nations, are attached to particular habits and cuſtoms, which affect their perſons, and particularly characteriſe them, as a people diſtinct even from their neighbours, whom perhaps only a river or a mountain divides from them. Thus ſome nations, as the American Indians, have for ages been endeavouring to extirpate the beard, by plucking it out by the root; ſome, from a ſavage idea of finery, or to prevent the ſwarms of inſects from annoying them, by bedaubing their bodies with tar, fat, or paints, have given their complexions an artificial hue of darkneſs; ſome by boring and continually drawing down their ears, have at laſt got them to touch their ſhoulders; the noſe, in like manner, and even the whole head, as well as the feet, by a variety of bandages, or by ſqueezing between boards, when in an infant ſtate, and capable of receiving the impreſſion, without deſtroying the ſubject,—the ſkull has been brought to aſſume artificial deformities; and thus we may account for the flat heads of Canada, the conical ones in Aſia, the flat noſes of the negroes, the ſmall feet of the Chineſe, and many other varieties, that have at firſt been introduced, not without violence, that cuſtom has kept up, till grown into a ſort of conſtitutional habit, and which it would, perhaps, take ſome generations to wear out, if the reſtraint were removed. But what are theſe artificial varieties, compared with what have been impoſed on domeſticated animals? Theſe, our humble partners in the creation, appear often to be ſo changed, both in ſhape and in habit, from what they were in their native wilds, as to look like quite different creatures. By the art and aſſiduity of man, the horſe is improved in ſpeed or in ſtrength, to ſuit his convenience: the ſheep becomes helpleſs and covered with long wool, to furniſh him with raiment: the cow, that is a fierce and bellowing brute, when in the foreſt, becomes, under his care, gentle in it's manners, and ſupplies him with milk, or bows it's neck to the yoke: in Ethiopia, it has been taught to tend him his ſheep, to tread out the corn, and, like the elephant and rhinoceros, to fight him his battles: and the dog appears to have gone through innumerable varieties, to ſuit his different purpoſes, and gratify his humours.

To obſerve more particularly the influence of climate on the different orders of the creation, man, though he appear to be very much affected thereby, will perhaps be found leſs ſo than moſt other creatures.

100. *General View of the Diverſity in Man.*] If we caſt our eyes around us, on the people of our own country, we may, pretty much, ſee the appearance of all the poliſhed nations of Europe; pretty much the ſame features appear to mark the northern nations of Africa, and thoſe alſo of the weſtern parts of Aſia, from the borders of Europe, to the Indian ocean. As the extenſive tracts, which theſe inhabit, have

have included moſt of the people we have read of in our records of antiquity, whether Jews or Egyptians, Babylonians, Medes, or Perſians, Grecians, or Romans, we may perhaps ſee, in the perſons of any of theſe people, thus widely diſſeminated, a pretty good likeneſs of what we read of the firſt ages of mankind, if we make an allowance for the caprice of dreſs, and for the taking off, or fantaſtically disfiguring the beard. Of the numerous people here mentioned, the nations of Europe, the Moors and Egyptians, the Arabs, Turks, Perſians and Indians, if we regard merely the colour, it varies by ſlow and imperceptible degrees, from the fair complexion of the northern nations, to the ſwarthy Spaniard and Moor; and from theſe to the olive-coloured and black Aſiatic. In the countenances of all theſe, however, there ſeems a beautiful ſymmetry, or a certain neatneſs and delicacy of feature, which does not appear to us, either in the flat noſes or thick lips of the inhabitants of the torrid regions of Negroland and Guinea, or in the broad faces and high cheeks of the Laplanders and little Tartars, of the bleak and frozen zone.

It is the perſons of theſe, the ſtatuary and painter have taken as models in their fineſt compoſitions; from theſe they ſeem to have derived all that they term ſublime and beautiful in the human figure; from theſe the ancients ſculptured their idols; and from theſe the moderns have, with the addition of bird's wings, deſigned their fanciful repreſentations of angels, and the queer, bodileſs, little monſters, to which they give the name of cherubs, and which, from their unnatural ſtructures, cannot be poſſeſſed of animal life.

But while we imagine we diſcover a certain beauty and delicacy of expreſſion, in the features of this widely diffuſed people, and are ready to account thoſe of the Negroes, or Greenlanders, as coarſe, rude, or deformed, and as produced by their ſuffering the laſt extremity of heat or cold the human conſtitution can endure, and by their leading a ſavage life; perhaps either the hardy little inhabitants of the frozen-zone, or the full-grown negroes, under the line, might, with as much fitneſs, account us deviations from the proper human figure, and eſteem all the delicacy we diſcover in our ſhapes, as only the effects of domeſtication and effeminacy. However, let nations contend how they pleaſe for ſuperiority of feature or figure, this is found to depend merely on the clime they inhabit, and their manner of life; and as European adventurers are found to loſe their fair complexions in a few generations, and become ſwarthy or black in hot climates, or little and ſtunted in cold ones, their features at the ſame time correſpondently changing, ſo alſo the inhabitants of cold or torrid regions are found in a ſimilar way, to loſe their original complexions and feature, when under the climate and cuſtoms of the temperate zone.

To ſpeak of the human form, thus ſuſceptible of change, and like an humble plant, depending on the ſoil where it grows for it's appearance, may to ſome appear rather degrading; but when the lot of human beings is conſidered, what different countries we have to inhabit, and what various modes of life to purſue, we ſhall have reaſon to admire the flexibility of the conſtitution, which adapts itſelf to the duties and habits impoſed on it, and thus fits us for undergoing the many irregularities

regularities inſeparable from this life. While the human figure is found to vary all over the earth, from different cauſes, and that by ſuch ſlow and imperceptible degrees, by paſſing over the leſs varieties, and regarding only the moſt obvious diviſions, we may, perhaps, with ſome fitneſs, conſider the whole human race under the three following diſtinct appearances; the Citizen, the Tartar, and the Negro.

I. Under the citizen may be included the numerous nations already named, inhabiting Europe, the northern parts of Africa, and the weſtern parts of Aſia to the Indian ocean. Though ſome of theſe, as a few tribes of Arabs, dwell in tents to this day, and lead a roving life, yet they generally anſwer the deſcription of what is called a poliſhed people; and ſome of them ſeem to have done ſo ſince the days of Abraham and Lot: theſe are the people, however different in complexion, whom we account regular-featured.

II. The Negro, under the line, being daily expoſed to the direct rays of the ſun, and, going almoſt naked, varies from the citizen, in being quite black, in having ſhort, woolly hair, a broad, flat noſe, and large, tumid lips. From the equinoctial line, ſouthward, to the Cape of Good Hope, theſe characteriſtics ſeem gradually rather leſs diſtinct; and, on the north, roving tribes of Arabs in the deſart of Zaara, ſeem to form the ſhade between theſe and the Moor.

III. The Tartar of the polar regions, between four and five feet in height, ſeems, from his bleak ſituation, to become leſs in ſtature than the reſt of mankind; the ſeverity of the cold produces effects in his complexion and features ſomething ſimilar to thoſe endured by the Negro: the viſage in theſe little men is large and broad, the noſe flat, the mouth large, the cheek bones high, and the complexion dark.

This deſcription of people is found to inhabit the northern regions of Europe, Aſia, and America, all round the pole, and comprehends the Laplanders, Eſquimaux, Samoiede Tartars, the inhabitants of Nova Zembla, the Borandians, the Greenlanders, and the natives of Kamtſchatka; the features of this people ſeem to prevail through the different tribes of American Indians; they are alſo ſeen to faintly have place in the perſons of the Chineſe and Japaneſe, and in the ſouthern tracts of Aſiatic Tartary, and the northern regions of Europe, to blend imperceptibly with thoſe of the citizen.

The broad features and dark complexion ſeem alſo to obtain in the South-Sea iſles, and indeed in all parts of the world, where the people have for ages led a roving kind of life, or been continually expoſed to the open air.

It is remarkable, that, while the human form undergoes ſuch changes, from climate, and other cauſes, length of life ſeems pretty equally diſtributed among different nations, and orders of men: the cit on his turtle, and the peaſant on his vegetable fare, the Greenlander among his native ſnows, and the African in the torrid zone, all appear to grow old together, and the period of their years ſeems more nearly equal than might have been expected.

101. *Lower Orders.*] The diminution of ſtature that the inhabitants of the polar regions undergo, from the ſeverity of the cold, ſeems ſmall, when

when compared with what the lower orders of the creation endure. In general, warmth and moiſture ſeem favourable to growth, as well among the animal as vegetable tribes of creatures. Inſects, as well as herbs, that, with us, appear of a tolerable ſize, in the arctic countries ſeem quite diminutive; while in the luxuriant regions of the torrid zone, they increaſe to an amazing ſize; there the ſpider grows to the ſize of an hen's egg; the butterfly ſpreads an expanſe of wing as large as a ſparrow; the toad appears as big as a duck; the oyſter is a meal for eight or ten men, and the ſhell is, in diameter, like a ſmall table: there, alſo, the bat, in ſize like a rabbit, is found a formidable enemy, and has been thought to be the original of the fabulous harpy of the ancients; the largeſt ſerpents and crocodiles, the huge hippopotamus, elephant, and rhinoceros, are all of them natives of the torrid zone. With the ſpotted ſkins of the ſavages of thoſe glowing regions the ſhowy horſeman adorns his ſteed; while the women are ſupplied for convenience, or dreſs, with the more delicate furs of the little quadrupeds of cold and frozen climes.

The cold climates of the north, however, are not without their productions of magnitude; witneſs the timber their foreſts ſupply to the ſouthern ſtates of Europe; their ſeas alſo produce fiſhes of the largeſt ſize; and, on land, the white bear is an animal of great magnitude and ſtrength, and untameable ferocity; their deer are alſo of a very large ſize; while the chrevotin of Africa, or little Guinea deer, about ſeven inches high, and twelve inches long, with legs almoſt as ſmall as the ſhank of a pipe, this neat little creature, looking like a ſtag in miniature, may ſhew, that the torrid zone is not without it's minute productions.

To ſurvey at large the ſeveral nations of the world, and their various manners; to take a general view of the curiouſly diverſified quarters of the globe, we may ſet out in imagination on a tour through the earth, and, ſweeping round the terreſtrial ball, ſketch the various proſpects that ariſe as we paſs along.

It muſt be by deſultory tracts that we obtain any thing like a general view of the earth. Let us commence with our Antipodes, run haſtily over the iſlands of the Pacific; paſs from them to the continental part of Aſia, viſit it's ſouthern ſtates in the order of the light of day; make a haſty courſe round Africa; paſs thence to America; ſweep round the northern pole; and, finally, in our view of the nations of the earth, make our deſcent upon Europe.

102. *Tranſportation of Convicts to Botany Bay.*] From the remote ſituation of the ſouthern parts of the world from the nations of Europe, we have as yet but little acquaintance with thoſe diſtant regions; but from the reſolution of government to tranſport convicts thither, it may appear ſomewhat probable, that the language and manners of our nation may ſome time hence obtain among a people that are nearly our antipodes; and many of the people of theſe iſlands may be highly intereſted in what is going on in the parts of the earth oppoſite to our feet. Botany Bay lies in the ſouth ſea, on the eaſt coaſt of New Holland, (which appears to be an iſland almoſt as large as all Europe) a voyage of about thirteen thouſand miles ſailing from this

part

part of the world, and is the place intended for colonization by the Engliſh. However we may regard this determination of the legiſlature with dubious ſentiments and expectations, whatever ſeverities might ſeem due to the delinquents, it were to be wiſhed greater honour had been done to the requeſts of their wives: the public papers inform us, that numbers of theſe afflicted women came to the ports where the veſſels lay ready for ſailing, and offered to accompany their huſbands to their exile; their requeſt could not be complied with; they were ordered to their pariſhes. What a pity it was they were not indulged! Through theſe faithful women, ready to follow their huſbands, it might be literally ſaid, to the end of the earth, what might we not have expected of reformation and refinement among the degraded members of the infant colony, now doubly mortified, and, perhaps, made more deſperate.

This eſtabliſhment has now taken place at Port Jackſon, which is about fifteen miles northward of Botany Bay, and, on account of it's fine harbour, was preferred to the latter. It's entrance is about two miles broad, it extends into a ſpacious baſon, runs about thirteen miles into the country, and contains no leſs than one hundred ſmall coves, formed by narrow necks of land.

Sydney Cove, on the ſouth ſide of the harbour, between five and ſix miles from the entrance, is the place of the principal ſettlement; a romantic ſpot, exhibiting a beautiful variety of rocks, wood, and water. The climate is conſidered as equal to the fineſt in Europe, and the plants and fruit-trees, brought from Braſil and the Cape of Good Hope, with the vegetables from Europe, thrive very well.

This eſtabliſhment ſeems, at leaſt, to have been attended with ſome happy conſequences. Some victims have hereby been reſcued from the ſanguinary laws of England, and, in that diſtant quarter, removed from the temptations which ariſe from the crooked policy of luxurious, burdened, and diſtracted Europe, live in ſecurity and peace. The worſt conſequences to be apprehended from it, ſeem to be the hurt and corruption of the poor, innocent natives, by the introduction of European manners and ſuperſtition.

The natives of New Holland are devoid of cloathing, yet ſeem fond of ornamenting their heads and necks with European toys. They ſeem to have no great averſion from the new ſettlers: the only acts of hoſtility they ever committed were on account of the latter occupying their fiſhing grounds; for their ſetting fire to the corn of the coloniſts ſeems to have proceeded more from ignorance than malice, as they are unacquainted with agriculture. To prevent, however, the repetition of this evil, a new ſettlement has been formed at Norfolk Iſland, which beautiful and fertile ſpot is about 1200 E. miles of New Holland, and 1000 NW. of New Zealand. From the laſt advices, the new colony conſiſted of 44 men, and 16 women. Whence ariſes this diſparity? Have the men a prejudice to the women of New Holland; or are the latter averſe from the Europeans, that they enter not into marriage? Or is it owing to the deſolating policy which predominates in military eſtabliſhments, and which, when it does not immediately deſtroy, yet detaches from ſociety, and from the ſocial duties,

duties, a body of the men. With the hope that this evil may, at length, be done away, we may enter more generally on the propoſed ſketch of the earth: the accumulated accounts of travellers through many ages furniſh out ſcenery very amply; but of the multiplicity of the objects that offer themſelves for exhibition, in the varied picture, to ſelect the moſt proper, and group them fitly together, ſeems a taſk indeed arduous.

SECTION X.

Iſlands in the South Seas, the Indian and Pacific Oceans, with an Abſtract of Cook's Voyage, &c.

103. *Polar Regions, Mountains, and Flat Ice.*] The ſouthern parts of the globe endure a longer winter than we do in the northern hemiſphere; and thoſe that have attempted to navigate their ſeas, have found the way embarraſſed and blocked up, by vaſt fields and prodigious mountains of ice, before they reached latitudes equal to ſome that are annually paſſed in the northern ocean; ſo that whether it may be ſea or land that inveſts the ſouth pole muſt remain in uncertainty; and, indeed, it ſeems of little conſequence to know the aſpect of thoſe parts, where life ſeems to be ſhut out by the rigour of froſt. Navigators, however, have ſailed far enough ſouthward to get within the continual glare of the ſix-month's day, and gaze on the dreary proſpect of ice and of ſnows, that ſeem for thouſands, and tens of thouſands of miles, to encompaſs the pole. The mountains of ice, that rear themſelves to aſtoniſhing heights above the ſurface of the waters, and that meet the mariner's eye at a great diſtance, ſeem to be ſome of the moſt curious appearances in nature. Theſe unſtable hills are ſeen alſo in the northern ſeas, ſometimes floating away to the warmer climates on the ſouth, to be melted down, and mingled with the waters of the ocean; at other times, arreſted by obſtructing ſhores, they take a fixed ſtation, and appear higher than the mountains aſhore. Naturaliſts, in accounting for the origin and accumulation of theſe enormous maſſes, obſerve, that the flat and the mountain ice are of different kinds, and differently formed; the flat ice is the ſurface of the ſea congealed by cold, which, on being diſſolved, is found to be ſalt; on the contrary, the mountain ice has only a thin ſhell of ſalty ice over it, formed from the ſpray, or waves of the ſea, waſhing againſt it: it is principally compoſed of freſh water, intermixed with gravel, earth, bruſhwood, &c. and produced upon land, eſpecially againſt the ſides of hills, where thaws of a ſhort duration ſometimes take place; on theſe occaſions, the water runs down from the ſprings and melting ſnows at the top, but is preſently ſtiffened by the froſt: by depoſitions of this kind, and by frequent falls of ſnow and rain, the maſs continues to accumulate, till, forming a tremendous precipice, overhanging the deep, it at length tumbles down, with a noiſe like thunder,

thunder, and with a force ſufficient to overſet a poor Greenlander in his little boat at a very great diſtance. From this account of the origin of ice mountains, it ſhould ſeem, that there muſt be tracts of land about the ſouthern pole: indeed it ſeems poſſible that there may be not only land, but even numerous nations, who may enjoy their native ſnows, as much as does the Greenlander, though appearances, it muſt be owned, are againſt this ſuppoſition, as the diſcoverable lands which lie neareſt the ſouth pole, have been found barren, bleak, and deſtitute of inhabitants; and ſome ſeem to think, that the flat ice, broken as it generally is by perpendicular fiſſures, may accumulate into thoſe enormous mountain-like maſſes, by being daſhed one againſt another, and by being heaped one over another by the commotions of the ſea; thus, by the vaſt tracts of the ice driving one againſt another, enormous lumps of it are ſometimes ſeen to be raiſed out of the water, tumbling one over another, cracking, breaking, and ſhivering with a noiſe like thunder.

104. *South-Sea Iſlands, and their Productions.*] Leaving, however, theſe regions of conjecture, and taking our departure from the enormous barriers of ice which have blocked them up from the view of European adventurers, the firſt lands that offer themſelves to view, are the iſlands of the South Sea; many of theſe exhibit ſcenes intereſting, beautiful, and curious; here no longer dreary tracts of ice, and ſolitary wilds, aſſail the eye, but beauteous proſpects of verdant iſles, enlivened with columns of ſmoke, which beſpeak the haunts of men at hand, and diverſify the face of that world of waters, cheer the drooping mariner, and promiſe him a recruit from his ſickneſs, and a reſpite from his toils. This larger half of the earth, the great South Sea and Pacific Ocean, was long unknown to the nations of Europe, even after the diſcovery of America; and during this uncertainty, theoriſts amuſed themſelves with fancying that there muſt be a ſouthern continent, to balance, as they expreſſed it, the northern parts of the globe. To find this terra incognita auſtralis has long been the employment of ſome of the ableſt navigators in Europe. Among theſe, James Cooke has, perhaps, been moſt eminent; in fact, he has hardly left unexplored a tract ſufficiently large to merit the name of a continent, even on the ſuppoſition of it's being all land.

105. *Productions.*] A few of the iſlands, that lie in high latitudes in the South Sea, have been found deſolate and uninhabited, except by animals of paſſage, as birds and ſeals; and theſe, from their being unacquainted with man in theſe ſolitudes, were ſo tame as to let the ſailors come and knock them on the head, without attempting to flee. The other iſles are generally fertile and pleaſant, their hills being covered with verdure, and pouring down pleaſant ſtreams, the ſoil producing, ſpontaneouſly, bread-fruit, cocoa-nuts, bananas, nuts, apples, plantains, ſweet potatoes, yams, ſugar-canes, and other vegetable fare; the foreſts furniſh large and valuable timber; the ſeas ſupply a variety of delicious fiſh; their fowls are numerous, and of various kinds; their land animals, beſides a few rats, are hogs and dogs; the dogs are fed upon vegetables, and make a part of the food

of

of the natives, a part not at all inferior to Engliſh lamb, if we may take the opinion of the Engliſh, who partook with them of the repaſt. Sailors, however, it may be obſerved, juſt come from a long voyage and ſalt proviſions, would hardly be employed as caterers for a city feaſt. Thoſe iſlands, that are not very remote from the continent, as New Holland and New Guinea, afford a variety of other animals. Happy iſles! where the fabled golden age ſeems in many parts to be realized; and where, in others, a very ſmall labour of tillage might more than ſupply every deficiency: and what, thrice happy people! ſecluded from the tumults that diſtract the ancient world, and deform the page of hiſtory, are the poſſeſſors of theſe iſles?

106. *Manners, &c. of the Iſlanders.*] The tender-minded and peaceful may obſerve, with concern, that in theſe ſequeſtered ſpots, evil prevails, as well as in the more buſy parts of the world. The adventurers generally, on appearing on their coaſts, found theſe ſimple people, though unacquainted with metals, were not without their inſtruments of war, which they ventured, for a while, to oppoſe to the more deſtructive arms of the Europeans; and though the expeditions appear to have been rather intended for the promotion of ſcience, and the extending of commerce in a peaceable way, it is to be lamented, that the Indians, many of them, loſt their lives in the unequal conteſt. Theſe poor people, whatever opinion they might entertain of the ſtrangers, at firſt, generally came down on the beach, to oppoſe their landing, with arrows, ſtones, and lances; they ſometimes even ventured in their canoes to ſurround the veſſels, and heave in their offenſive weapons among the people, which were anſwered by others more alarming and effective; and when they came to a better underſtanding of the deſign of the Europeans, even then, they ſcrupled not to take from them, by ſtealth, and ſometimes by force, whatever they could carry off; they would ſnatch the hats off their heads, the handkerchiefs from their necks, and carry off, with amazing dexterity, every little implement they could lay their hands on, as cloaths, knives, piſtols, the mathematical inſtruments, they even ventured on their boats and guns; and theſe depredations brought on conteſts, which ſometimes terminated in bloodſhed. But of all the baits that ever fell in the way of the poor Indian, nails appear to have been by far the moſt alluring; while their larger tools, their hatchets, or axes, for forming the canoes, and other weighty operations, were made of hard ſtones; while, for points to their arrows, their lances, or fiſhing tools, they had prepared ſharp pieces of hard wood, and bones of fiſhes; while theſe, little ſtones, ſhells, and human bones, formed their apparatus of drills, chiſſels, razors, &c. nails according to their different ſizes and ſhapes, might themſelves appear ſuited to anſwer every purpoſe. For nails, they ſold their pigs, plantains, cocoa-nuts, and other produce: in fact, nails and European hatchets, together with beads, glaſſes, or trinkets, became the medium of trade, or the ſpecie of the South Sea.

The ſurpriſe with which theſe ſimple people were ſtruck, on their firſt becoming acquainted with a variety of things, with which we are familiar in Europe, affords ſomething amuſing. The officers are

at breakfaſt, and fill the pot, by turning the cock of the tea-kitchen, the Indian turns it alſo, and holds his hand to receive the water; he is ſcalded, ſcreams out, by the painful experiment, finds there are other veſſels beſides thoſe of cocoa-ſhells, that they may be ſet on the fire, and that water may be made hot: he attempts to uſe their knives and forks, but when he ſets about to eat, his hand indeed comes very naturally to his mouth in the old way, but the meat on the point of his new-fangled tool, paſſes off to his oppoſite ear. he looks through the teleſcope, and ſees objects at a diſtance, he withdraws his eye, and is amazed they are vaniſhed: he ſcampers off affrighted, or ſtands in ſilent horror, when he views the formidable gun, dealing death at a diſtance, and bringing down from their heights, the fleeteſt paſſengers of the air: he is aſtoniſhed at the ſudden appearance of the Indian in the looking-glaſs; he looks behind it, and finds nobody there, he ſteals another glance, the glance is returned, he gets familiar with the image, and cannot but ſmile; the ſhadow ſmiles alſo, and he laughs out immoderately. The Engliſh, walking on a hot day, into one of their ſheds, which are very extenſive, and the people crowding round them, one of the ſtrangers being too warm, lifts his peruke to wipe his head: the poor natives flee with horror, thinking he was taking his head to pieces. Thus childiſh appeared the conduct of the inhabitants of the South-Sea iſlands, and well would it have been, if they themſelves had been as innocent, as their manners ſeemed ſimple; this, however, was ſo far from being the caſe, that their hiſtory affords, perhaps, one of the moſt melancholy pictures of the depravity of mankind, to be met with upon earth.

Some geographers and hiſtorians, a little before their diſcovering theſe iſlands, ſeemed beginning to treat as fabulous, the accounts of Anthropophagi, as handed down by the ancients, or related by modern travellers, and fitted only to furniſh with the marvellous, the romantic page of a Robinſon Cruſoe. In the hiſtory of ſome of theſe iſlanders, however, we have a melancholy proof of the exiſtence of cruel cannibals, and indeed of many deſcriptions of barbarity. In their wars with each other, they give no quarter, but with a ſavage ferocity, cut up the bodies of their enemies, and devour them; ſatiating at once their hunger and revenge; for as the Greeks believed thoſe to be doomed to wander ſolitary ghoſts on the banks of the Styx, whoſe remains were let to lie unburied on the earth; ſo ſome of theſe hold, that the ſouls of thoſe whoſe bodies have been thus devoured, ſuffer torture in the other world, of which, however their notions are very confuſed; they cut out their under jaws, and hang them up in their dwellings, as trophies of victory: they offer up human ſacrifices to their Etoo or God, and the victim to theſe gloomy and horrid rites, is a criminal, a ſtroller, or one of the pooreſt claſs of people, any helpleſs or friendleſs poor fellow, whom the chief may think fit to mention, and to whom his ſervants only give the notice, by knocking him down, and immediately putting him to death by clubs and ſtones. As offerings to their deity, they alſo knock out their own teeth, and cut the joints from their fingers. As the eree or king may order his ſubject to be ſacrificed, ſo thoſe of the lower orders may kill a thief with

impunity; and for the life of a ſlave, a preſent to the maſter, when his anger has ſubſided, is found to be an atonement. Polygamy is practiſed by both ſexes; and the fathers proſtitute their daughters for hire, and the purchaſer may keep her for his wife, or may kill the children, and put her away, or the father will take her from him, if he get a more lucrative offer. In the violence of grief for the death of a friend or relation, or in the exceſs of joy on their return from afar, or from dangers, they weep profuſely, and beat their cheeks and breaſts, or ſtrike a ſhark's tooth in their head, and mingle their blood with their tears, a cuſtom forbidden to the ſons of Aaron.

At this affecting ſcene, the natives are often unconcerned; and the actors themſelves, when the moments of paſſion are over, plunge into the ſea to waſh themſelves, and ſeem to forget it. A people thus violent and unſteady in their temper, muſt neceſſarily be unſteady and fickle in their conduct; this, poor Cook, in his laſt voyage, fatally experienced among a people, with whom he had been on very friendly terms, and who revered him as a god; he fell a victim to their ſudden rage, and was ſacrificed or devoured.

They are yet without the knowledge of preparing, by fermentation, liquors that intoxicate, their drink being principally water, and the milk of the cocoa nut; they, however, like other nations, have their favourite beverage, with which they entertain their friends; the name they give it is kava. The kava is produced from the root of a kind of pepper, in a ſingular ſort of way; the people take each a piece of the root in their mouths, and chew it like tobacco, till the ſaliva flows; a bowl is then handed about for each of them to ſpit into; when a ſufficiency of liquid is thus obtained, the veſſel is handed to the chief and his gueſts to regale themſelves therewith; and however naſeous we might account ſuch a potion, they prefer it to the liquors we make uſe of. The kava, however, is found to impair the conſtitution, and when taken to exceſs, will produce even madneſs.

Such of them as wear cloaths, uſe them generally as a looſe mantle; they are made of ſtrong graſs, braided together, or wove like ſilk mats, and of a kind of cloth, which they make of the bark of the mulberry, or cloth-tree, by taking off the hard outer rind, ſteeping it in the water till it is ſoft, and then beating it out with a ſquare wooden beetle, which has longitudinal grooves on it's different ſides, from coarſe to fine, and theſe leave a grain on the cloth, like that on paper, but a great deal more coarſe; they then bleach, and dye it of different colours, and in curious patterns. Beſides this, and trinkets, and dreſſing the hair, and decorating it with feathers, they have other methods of making themſelves fine, beyond what any European nations practiſe; theſe indeed are painful, but their effects are laſting; they tattoo their faces and different parts of their bodies, in lines and curves, and checks and volutes; this they do by puncturing the ſkin, and rubbing in paint; and this fixes an indelible ſtain. Both men and women uncover their whole bodies, by way of reſpect, as Europeans take off their hats. Their huts are framed with poſts and wicker work, and covered with bark and leaves; their cloth and mats they alſo uſe as carpets. They have their games or athletic exerciſes, in which they ſhew uncommon agility,

lity, and great good humour, boxing and wreſtling with aſtoniſhing violence, ſo that the ſailors did not chuſe to accept their invitation to partake in the ſports. They have their dramas and dances, and concerts of vocal muſic; to theſe they add a kind of drum, and a whiſtle made of reed, which they ſound by applying to the noſe. They bake their meat in ovens or holes, which they dig in the ground, and line with ſtones; in theſe they kindle a fire, and when the place is ſufficiently hot, they remove the aſhes, and put in the meat, ſometimes a whole hog, wrapt up in leaves, and then cover it up with hot ſtones and earth; in this manner it retains it's ſucculency, and is found ſuperior to the cookery of Europe.

A very ſhort ſketch of the laſt voyage of James Cook, may perhaps here be rather intereſting, and may ſerve to convey a farther account of theſe people.

107. *Abſtract of Cook's Voyage.*] It had long been thought, if a paſſage could be diſcovered between the Atlantic and Pacific Oceans on the north, the navigation to China, India, and the other diſtant parts of the world, would thus be much ſhortened, and that commerce would conſequently benefit much by the event. It was imagined, that as the utmoſt bounds of Hudſon's and Baffin's Bays were not yet known, a paſſage through theſe to the Pacific might poſſibly be obtained: it was thought alſo, that the communication between the two oceans, might poſſibly be open acroſs the northern pole. Under theſe ideas, many adventurers, both public and private, attempted the navigation; they generally found the way blocked up with the ice, and were obliged to return; ſome got ſo embarraſſed in it, they found it difficult to get clear; and ſome there were that periſhed in the hardy attempt.

In order to determine whether ſuch a paſſage could be effected, the Reſolution, Captain Cook, and Diſcovery, Captain Clarke, were equipped, with ſuitable ſtores, in a very plentiful way, and ſent to the ſouth ſea; it was ordered, that they ſhould there make any further diſcoveries in their power, diſtribute among the iſlands, for the benefit of the natives or future navigators, the variety of domeſtic animals our country affords, leave Omai at home, who had heretofore come with them from the iſland of Otaheite, and thence proceed to the high latitudes on the north, there to attempt the much-deſired paſſage to the Atlantic; and in caſe they ſhould fail, return home the old way.

In the year 1776, a little after midſummer, they ſet ſail from Plymouth, and on the coming on of our winter, we find them beginning the ſummer of the ſouthern hemiſphere, at the Cape of Good Hope. The whole year 1777, within a few days, they ſpent ſouth of the line, and viſited ſucceſſively New Holland, New Zealand, the Friendly and Society Iſles, beſides other detached iſlands.

108. *New Holland.*] After leaving the Cape, and paſſing, or barely touching at ſome bleak and uninhabited iſles, it was early in the year 1777 they arrived at the moſt ſouthern part of New Holland; here they recruited their ſtock of wood and water, and cut ſome graſs for their cattle, the country indeed affording little more for their refreſhment: the ſimple wiſhes of the natives, however, ſeem but equal to the

ſupply. The philoſopher Diogenes, who lived in a tub, and in his zeal againſt luxury, threw away his diſh, when he ſaw a man take a drink at the brook in the hollow of his hand—had the cynic been here, he might have thought he abounded in luxury and ſuperfluity. Of all the people, who inhabit the world, theſe natives of New Holland are perhaps the moſt eaſily ſupported, they live without cloaths, without houſes, without bread, or a ſupply of vegetables; they are without canoes, and unacquainted with the method of catching large fiſh; they derive a frugal ſubſiſtence from the ſhell-fiſh they can pick up from the ſhore; they lie down, and take up their repoſe on the graſs, or like the fauns of the ancients, take up their abode in hollow trees.

The Engliſh, on their arrival among theſe ſimple people, obſerved their manners to be mild, unſuſpecting, and unreſerved; they handed them bread, but this they threw away, they offered them fiſh, but this they refuſed; they preſented them fowl, of this they ate, and ſignified that they liked it; they ſhewed them iron, and what was ſurpriſing, they cared not for it, yet they had a ſort of lances, but ſhewed no great ſkill in uſing them; they have alſo a method of hollowing out the trees, by cutting or gaſhing them out with ſtones; one ſide of the trunk they leave pretty ſtrong; the cavity is large enough to let ſix or ſeven of them ſit down in it, with a fire in the middle; and the tree, thus excavated, is notwithſtanding ſufficiently ſupplied with verdure. Their ſeas abound with fiſh, their foreſts with fowl, but the quadrupeds are few. Some were ſo debaſed as to offer preſents to the women in order to ſeduce them, but theſe they ſpurned from them with indignity. It will be well, if their manners be improved in the end, by the colonization of their country with the Engliſh.

109. *New Zealand.*] The adventurers after leaving a couple of pigs in the wood for the improvement of this land, proceeded on their voyage to the iſlands of New Zealand: here the ſcene was wonderfully changed, and the people ſeemed to have made conſiderable advances in the arts of life; they had contrived to build themſelves ſtately canoes, though without the uſe of metals; and ſo expert were they in erecting their habitations on ſhore, that in the ſpace of half an hour, they could both clear the ground, that was matted and embarraſſed with ſhrubbery, and build on it a town, or cover it with their huts: they had a ſort of regular fortifications to flee to, built on the tops of hills, or entrenched in the lower grounds: they practiſe a little tillage, and their nets for hauling the ſeyne are of vaſt extent, and the common property of a townſhip or diſtrict. Their fondneſs for carving, and dexterity in that art, appeared as well in the curious tattooing of their faces, as the manner of ornamenting their canoes and different utenſils or weapons. There is a certain etiquette or decorum of manners obſerved among them; they join their noſes together by way of ſalute: they are kind and hoſpitable to travelling ſtrangers: theſe people wear cloaths, and the women are diſtinguiſhable from the men in their manner of dreſs, their lower garments being always faſt bound about them. In New Zealand, the moſt implacable ferocity was found among the men, and unchaſtity in the women, with the parents

rents, concurrence. Towards their enemies, they are perhaps the fiercest and most desperate of all mortals; they give no quarter, and feed upon the slain. Inured from their infancy to the practice of war, they seem habitually suspicious, and ever on the watch; they seldom lay down their arms, and then they take care they shall be within their reach, and ready for a snatch. As fighting forms a principal part of their employment, so also it appears to be their delight. They join together in the war-song, and animate each other in horrid concert; with muscular exertions, they distend their eye-lids, distort their features, put out their tongues to an enormous length, and stare most hideously; and the children are adepts in the manners of their fathers. It was these people that, in a former voyage of Cook cut off the Adventure's boat's crew, and fed on their mangled bodies; and these are the people most nearly our antipodes. The animals of New Zealand are rats, and a kind of fox-dog. The country is hilly, and therefore not well adapted for agriculture. The forests are grand, stately, and luxuriant.

110. *Friendly and Society Isles.*] On the coming on of our spring, 1777, or the autumn of the southern hemisphere, the navigators departed from New Zealand, and proceeded northward to the Friendly and Society Isles; these they enriched with their presents of animals and various useful plants. In these parts, they spent most of the remaining part of the year, mixing with the natives in their festivals, customs, and ceremonies: here they met with kindness, generosity, and friendship, and lamented that the bloody practice of offering human sacrifices should obtain among a people in other respects benevolent and humane: however, if we except the custom of devouring human flesh, they very much answer the general description already given of the islanders. After compleating their astronomical and nautic observations, and fixing Omai in a comfortable house, with his cattle about him, and his garden in a thriving way, at the latter end of the year, they took their departure, proceeded towards the north, and crossed the line. The whole of the years 1778 and 1779, they spent in the Pacific, north of the equator.

111. *Sandwich Islands.*] It was early in 1778, that they fell in with another cluster of islands, fertile and pleasant; these they named after the Earl of Sandwich. The people they found friendly, like the generality of the islanders, and much the same in their manner of life; others had received our strangers by reciting songs in concert, these welcomed them by extending their arms. The men shewed the most tender affection to their families, relieving their wives in the tending of their children. They seemed most ingenious manufacturers of their cloth, equaling, in their colouring, the patterns of Europe and China; they excelled in vocal music, and were fond of pantomimical drollery, putting gourds over their heads, by way of masques. They have a variety of other diversions among them, as a sort of chess, bowls, quoits, and the tossing and catching of a number of little balls in the air; but their greatest diversion seemed to be in the water, on a little bit of board, and in this they shewed surprising address, agility, and courage. Their method was, when the sea was uncommonly rough,

and a prodigious ſurf was raiſed among the rocks, they went out with their piece of board, and watching the approach of the billows, they dived through them, without being taken up by them, and daſhed againſt the ſhore; when they had paſſed the ſurf, and fixed themſelves to their liking on their little board, they then watched the coming of a prodigious ſwell, and artfully giving themſelves up to it, were borne aloft, and carried on it to land; and in the midſt of ſuch a flight, while the Engliſh were fearing their ſudden deſtruction, they would dexterouſly evade the danger, by giving up their little carriage to be at once daſhed in pieces againſt the rocks, to the aſtoniſhment of the ſailors; the women would take their children in their arms, and ſwim aſhore from the ſhips, through tremendous billows; and on the overſetting of a canoe, even the four-year-old children would play a hundred little tricks in the water, till the veſſel was righted.

112. *Weſtern Shore of America.*] The adventurers ſoon departed from Sandwich Iſles, and reached the weſtern ſhore of America early in the ſpring. They explored this remote coaſt, unknown to Europeans, to a very high latitude, in ſearch of a paſſage to Europe on the north eaſt; here the natives were clad in ſkins, and ſold their furs to the ſtrangers for iron and trinkets; they offered them alſo for ſale, human ſkulls, and hands not yet ſtripped of the fleſh; they ſeemed fonder of diſfiguring their bodies than even the New Zealanders; thoſe had ſlit the ear, which is a cartilaginous ſubſtance, in ſuch a way, that it anſwered as a belt to ſtick a knife in. Theſe American Indians ſlit the under lip, in ſuch a manner, they appeared to have two mouths. They had alſo holes bored through their cheeks, in which they placed ſhells or teeth, ſticking out. They alſo cover themſelves with maſques, and go on all fours, in order to ſteal upon their game in the woods.

113. *Vicinity of Aſia and America.*] The adventurers fell in with ſome iſles far to the north, where they met with ſome Ruſſians, who had ſettled there for the ſake of the fur-trade; from theſe they received ſome information reſpecting thoſe ſeas, and a couple of letters to take to Kamſchatka, and then proceeded north, till they found the continents of Aſia and America, within forty miles of each other. Having paſſed theſe ſtraights, which lie cloſe at the beginning of the frigid zone, they found a large ſea, but blocked up, and embarraſſed with ice. After ſome fruitleſs efforts to make the paſſage on the north, and conſidering the ſummer was now almoſt ſpent, they returned to Owyhee, one of the Sandwich Iſles, in the latter part of 1778.

114. *Owyhee, and Death of James Cook.*] Here the people, well pleaſed with their return, received them with ſongs and ſhoutings of joy; they met them in their canoes, and crowded on board the veſſels, ſwarming on the decks and rigging like bees, inſomuch, that the Diſcovery ſeemed to ſink with their weight. Multitudes of women and boys, who could not get canoes, came ſwimming in ſhoals round the veſſels; and when they could not get on board, they kept playing the remainder of the day in the water. The moſt unreſerved and active friendſhip ſeemed mutally to ſubſiſt between the natives and the viſitants during their ſtay; and on the latter leaving the iſland,

and

and intimating to the others, that they would never more return, their departure was accompanied with lamentation and tears. It happened that the weather came on somewhat stormy, and the foremast of the Resolution was sprung in the gale. This made it necessary for them to return to their former station; but how great was their surprize, when they entered the bay, which before had been alive with the multitudes of the people paddling about in the water! It now appeared one solitary scene. There was no canoe came out to meet them with songs and shouts to hail their return. This seemed inexplicable; it was found, however, that the bay had been tabooed or forbid; that their friend, the king Tereaboo had removed to another part of the country, and that the people had consequently departed from the coast. It should seem also, that the natives might be very much surprised at their sudden return, and might apprehend, that they had broken their word, and had some evil design. Be this how it may, matters remained not long thus; a commerce was once more established between them; the coast, the bay, and the vessels, became crowded; their pigs and their plantains were brought down from the country as before; the king and his family did our people the honour of their visits; but the priests became their most particular friends: to secure the workmen in their necessary operations ashore, from the depredations of such as were disposed to pillage, they took up their abode with them, and stuck up their wands to taboo the place from the incursions of the natives; the chiefs and the people, however, were not all thus civil, but rather seemed to discover some marks of impatience and dislike. Some of them had the audacity and address to carry off the cutter; and when the commander at the observatory ashore, where the priests attended, came on board to complain of hostilities offered by some of the natives, he found the captain, James Cook, just loading his double-barrelled piece, and preparing a party to accompany him ashore, to demand the cutter to be returned. He had heretofore in the islands, on similar occasions, secured their chiefs, and detained them till restitution was made; and this way of procedure he had found easy, expeditious, and effectual. Intending the same conduct on the present occasion, the captain arrived at the house of Tereaboo, and requested that he would come on board. To this the old king made no objection. His two sons were not within, but had been sought for, and sent before, and the father rose up and accompanied the captain. The boats of the English had been stationed to guard the bay, and prevent any of the canoes from escaping, till the cutter should be brought back. In the mean time, the mother of the boys, observing the military appearance of the captain and his attendants, had taken the alarm; the fears of the woman soon spread among the multitude, and the chiefs would not suffer their king to proceed. The captain seemed willing to forego his design for the present, rather than accomplish it with the spilling of blood. His little party seemed likely to be embarrassed by the multitude, and the officer proposed drawing up his men along the rocks, by the water's edge, that they might have an opportunity, if necessary, of using their arms: this was approved of, and done, and the captain left alone.

At this unfavourable juncture, an account arrived, that one of the chiefs was juſt killed by the boats of the Engliſh, which had fired at his canoe; and the people became outrageous, determined, and bold. One of the moſt hardy of them, confronted the captain, and brandiſhed his weapons in a menacing manner; in vain the captain deſired him to deſiſt; he at length fired upon him, but his mat was proof againſt the ſhot. The people, enraged, bore hard upon the captain, he ſhot one of the foremoſt; immediately followed a volley of ſtones, which was anſwered with the firing of the boats and marines; the captain ſtill fronting them, retreated towards the boats; and while he thus continued to face his aſſailants, they ſeemed none of them to have the courage to fall on him; the boats were in the mean time keeping up a ſmart fire on the natives; but while the captain, at the water's edge, was calling out to them to deſiſt, the Indians ſtabbed him behind; he fell into the water; their vengeance ſtopt not here; they ſet up a ſhout, dragged off his body, and cut it to pieces. The marines and their officer, when they had diſcharged their pieces, had not time to load again; the multitude ruſhed upon them with diſmal yells, and killed four on the ſpot; the reſt leaped into the water, and got off under the fire of the boats; one man, however, who was but a bad ſwimmer, continued ſtruggling in the waters with his diſmally fierce purſuers at his rear. The officer, Lieutenant Phillips, could not enjoy his own ſecurity, while he ſaw his comrade in ſuch perilous diſtreſs; though already wounded, he leaped out of the boat, and though he then received a blow on the head from a ſtone, which nearly ſent him to the bottom, he ſnatched the poor fellow by the hair of his head, and dragged him off.

The rigging, and aſtronomical apparatus at the village, on the other ſide of the bay, where the kind and friendly prieſts reſided, being ſpeedily got on board, the reſt of the day was ſpent in endeavouring to bring the natives to a parley. They demanded the dead bodies, eſpecially that of Cook, and threatened vengeance if they were not returned; but the people treated them with mockery and contempt.

Great were the military preparations on board, that followed theſe calamities; the Engliſh, apprehenſive of an attack on the veſſels under cover of the night, were all on the watch; they had their boats ready armed, and rowing at ſome diſtance round the veſſels, to prevent the cables from being cut, and they found the natives were equally buſy; a prodigious number of fires were kindled upon the hills; and they had reaſon to believe, that at that very inſtant, they were offering up the ſlain as a ſacrifice.

They remained the whole night undiſturbed, except by the howlings and lamentations that were heard on the ſhore. The next morning they heard conchs blowing in the different parts of the coaſt, as the challenge to battle; and large parties were ſeen marching over the hills.

The Engliſh learned from the prieſts, who ſent ſecret meſſages to them by night, that the fleſh of their ſlain countrymen, together with the bones of the trunk had been burnt; that the remaining bones of the captain had been diſtributed among the chiefs, thoſe of the others

had

had been given to the multitude. They kept up the demand for the remains of their late commander, and continued to make the neceſſary preparation for ſea. The prieſts remained their unalienable friends, and others kept up their hoſtilities and inſults, till at laſt they made them feel ſome of the weight of their reſentment. The men had all along ſhewn themſelves prompt to revenge the death of their much lamented commander, and when the natives ſtill continued to harraſs and annoy them, at their taking in of the water, they at length had leave given them to ſet fire to ſome of their houſes; they were but men, and ſuſceptible of ſudden paſſion; they killed ſeveral of the people indiſcriminately, they made a general conflagration; and the houſes and the goods of the kind prieſts were conſumed, and the coaſt was filled with groans, howling, and lamentation. Among the number that were killed, the Engliſh had to lament the loſs of many of their good friends; and many of the natives bewailed in tears the death of the captain, as well as that of their own countrymen.

When the Indians had been made to feel, that the forbearance of the Engliſh had not proceeded from debility or fear, they at length laid aſide their animoſity, and became once more their friends. The remains of the poor captain were gathered together, and brought on board the veſſel; they were committed to the deep with the uſual ſolemnity, and no doubt, with aching hearts, though with military parade. Proviſions were again brought down as before; and at laſt, on the adventurers taking their departure, their farewels were received with every mark of affection and good-will.

115. *Kamtſchatka, the Return.*] It was in ſpring they departed from the Sandwich iſles, once more to attempt a paſſage to Europe on the north; they proceeded to Kamtſchatka, a country which forms the eaſtern coaſt of Aſia, far to the north. This part of the world, though ſo extremely remote from the nations of Europe, acknowledges the arbitrary ſceptre of the Ruſs; here in a land of ice and of ſnows, of bears and of wolves, and where the natives adopt the awkward geſtures of the bears, in their merriments and dancings; and where they acknowledge them as their preceptors in ſurgery and phyſic, having obſerved and adopted the herbs they have recourſe to, when languid or wounded; here they experienced politeneſs and hoſpitality. After ſpending ſome years in ſolitary ſeas, and among nations of Indians, even the infant advances that were made in arts and refinement, in this dreary land, muſt have given it an air of Europe, and revived the ſpirits of the ſailors. On this bleak coaſt their eyes were firſt feaſted, after leaving the iſles, with the view of a light-houſe; it ſtands on the Bluff Head, at the entrance of Awatſka Bay, and is lighted when Ruſſian veſſels are expected on the coaſt, other ſhips ſcarcely ever appearing on thoſe ſolitary ſeas. On their gaining the bay, and coming to an anchor, they examined every corner with their glaſſes, in ſearch of Peter and Paul's town, a place they conceived to be of ſome ſtrength and conſideration. At length they diſcovered a few miſerable log-houſes, and ſome conical huts, raiſed on poles, amounting in all to about thirty; which from their ſituation, notwithſtanding all the reſpect they wiſhed to entertain for a Ruſſian Oſtrog, they were under a ne-

ceſſity of concluding to be Petropaulouſkoi. They could not for a long time perceive any ſign of a living creature in the place. The next day, however, four of our people being ſet on the ice to go to the town, after obſerving ſome men hurrying backward and forward, they ſaw one of the inhabitants coming down on a ſledge, drawn by dogs; he gazed awhile at the ſtrangers, and then ſet off back again. Another driver came down, in like manner, and called out to them; they held up the letters they had received the preceding ſummer from the Ruſſian fur-traders, addreſſed to the commander at Petropaulouſkoi, and the governor of Kamtſchatka; upon this the driver turned about, and ſet off back again in full ſpeed: a guard of thirty ſoldiers then met them on the ice, and theſe they accompanied to the Oſtrog, where they were kindly entertained, when once they made them underſtand they had not come as enemies. On their leaving the village, each was accommodated with a ſledge, dogs, and driver; one was allotted alſo to carry the two boat hooks they had brought with them, at which the ſailors were highly diverted. At this place they got a ſupply of cattle and flour, and experienced extraordinary kindneſs from the people, eſpecially from the governor, Major Behm; conſidering the ſervice they were engaged in, as of general advantage to mankind, he thought that in every country they were entitled to the privileges of citizens, and would not receive pay for the articles ſupplied. "I cannot," ſays he, "forget my miſtreſs's character, or my own honour, ſo much as to barter for the performance of a duty: beſides, he remarked, that the Kamtſchatdales were but juſt emerging from a ſtate of barbarity; that they looked up to the Ruſſians as their patterns in every thing, and he hoped that in future they might look upon it as their duty, to aſſiſt ſtrangers to the utmoſt of their power, and believe that ſuch was the univerſal practice of civilized nations. The adventurers, after leaving this hoſpitable port, proceeded northward, and paſſed the ſtraight between Aſia and America. After reaching about as far as they had done the preceding year, and encountering many difficulties and dangers from the ice, which they found extended from continent to continent, and effectually prevented them from effecting the paſſage, to the unſpeakable joy of the whole company, the ſignal was made to return.

They were now heartſick of the hardſhips, the dangers, and the anxieties, to which they had been continually expoſed, and for which their reward had been only diſappointment; they now ſaw the end of their outgoings, and every future ſtep as bringing them nearer home; and, though they had a difficult and tedious voyage ſtill before them, the ſudden joy on this occaſion, that brightened the countenance of every individual, was perhaps greater than they would have experienced on a view of their own native ſhores, after long looking out for and expecting the land. Our navigators now returned to Kamtſchatka, where they again met with a kind and friendly reception, recruited their naval ſtores, and repaired the damage done to the ſhips; here alſo they interred the remains of the captain, Clarke, who had been on the decline from the time of his leaving England, had borne his ſufferings with great patience and reſignation, and died a ſhort time before

before their return to this port. From hence, taking their departure to known lands, and frequented ſeas, they coaſted along the iſland to Japan, and met with two of the craft of that nation, but declined approaching them, for fear of needleſsly intimidating them, eſpecially as they expected they might have an opportunity of an intercourſe with the natives; in this however they afterwards failed, as they never got aſhore at all, but proceeded on to China, where they landed at Canton in the latter end of 1779: from this they proceed to the Cape of Good Hope; and from thence to Great Britain, where they arrived in the latter end of ſummer, 1780, after an abſence of four years. It is remarkable, that in the whole of this tedious voyage, wherein they viſited almoſt, altogether, every habitable climate of the earth, there were but five that died of ſickneſs, three of whom were ill before they left England; and it is equally remarkable, that the two ſhips were ſcarcely ever a day without a ſight of each other, during all that time.

116. *Obſervations on the Voyage.*] We may now take our leave of this well-conducted navigation, by obſerving, that this very voyage, in accounting for the peopling of the remote parts of the world, may ſerve as a cord, to bind together all the nations of the earth, into one great family, deſcended from one common ſtock. It had long been wondered how America came to be peopled; and ſtill more, how the widely diffuſed iſlands in the great South Sea, were found ſtocked with inhabitants.

Our navigators found Aſia and America very near to each other, in a high, but habitable, latitude: they learned alſo, that when the intervening ſea was open, it was croſſed with canoes; when frozen, with ſledges drawn by dogs. This ſolves the wonder reſpecting the Americans; the extreme diſtance of the South Sea iſlands from the continent, and the ſmallneſs of the veſſels which the natives were capable of conſtructing and navigating, ſeemed incompatible with each other; it was thought that canoes could never have brought them through ſo immenſely diſtant a voyage; late diſcoveries, however, ſhew, that the iſlands, though generally very remote from the continents, yet they are not all ſo; they are very numerous, and widely diffuſed, in ſome parts in cluſters, in others in detached iſles; the neareſt diſtance, therefore, from land to land, is not ſo great as was at firſt imagined; beſides, there may be hundreds of them yet undiſcovered by the Europeans, which may ſerve as links, to bring nearer together thoſe which may appear to us the moſt diſtant; and that even canoes may ſometimes go to a great diſtance by ſea; and that, therefore, the iſlands may in this way have been peopled from the continent, is clear, from an incident that happened during this voyage. At an iſland two hundred leagues diſtant from Otaheite, Omai, to his great ſurprize, met with ſome of his countrymen. It appeared that about twelve years before this, a number of them had been croſſing in a canoe from one of the Society Iſles to another, but had been blown off by adverſe winds; after enduring great hardſhip, and moſt of the people dying, they were at laſt caſt upon this iſland, whence they knew not how to return. The ſimilitude between the language and manners

manners here, and thoſe of their own country were ſo exact, they were ſoon naturalized to this place, and they had now become ſo attached to it, having formed new connections here, that when Omai propoſed getting them brought back to their native home, they declined the offer.

To conclude the ſketch of the iſlands in the South Sea, there is a great ſimilitude prevails in the manner of them all, however remote from each other, and their language is generally a dialect of the Malayan tongue. So that India appears to have furniſhed the South Sea iſlands with inhabitants, as Tartary on the north, has peopled America.

As, in the proſpect of the earth, we have not to wait the delays of the traveller, or the diſappointments of the mariner; but, fleeter than the wind, may ſkim along the convexity of the globe, and view, in imagination, the varied ſcene, which it has coſt them hardſhips and pains to deſcry; we may juſt glance at ſome of the other iſlands of the eaſt, paſſing at pleaſure, in our ideal way, in the moſt deſultory manner, from iſle to iſle, or from cluſter to cluſter, before we enter on our view of the Aſiatic continent.

117. *Pelew Iſlands, &c.*] A more lovely picture of human nature, undiſtorted by modern civilization, than the general one already given of the South Sea iſlanders, was unfolded to the view of Europeans, in the natives of the Pelew Iſlands ſo lately as 1783. In the autumn of that year, the Antelope, a packet belonging to the Eaſt India company, was wrecked on this coaſt, and the crew experienced the greateſt humanity and hoſpitality. This cluſter of iſlands lies a few degrees north of the line, and farther eaſt than the generality of the European ſettlements in the Eaſt Indies. They are long but narrow, of a moderate height, and well covered with wood, producing ſugar-cane, yams, cocoa-nuts, plantains, bananas, oranges and lemons. The climate is temperate and agreeable; and the ſurrounding ſeas abound with the fineſt and greateſt variety of fiſh. The natives, in general, are rather above the middle ſtature, have long hair, and are ſtout, and of a deep copper colour: the men are without cloaths, and the women wear only two ſmall aprons, one behind, and another before, made of the huſks of the cocoa-nut, dyed with different ſhades of yellow. Both men and women are tatooed, and they blacken their teeth with art. They diſplay great ingenuity in the formation of domeſtic implements, fiſhing tackle, &c. Their manners are extremely delicate and obliging, and the greateſt chaſtity and delicacy of intercourſe is obſerved between the ſexes. Their government is monarchical, and the king, occaſionally, creates his nobles, called Rupacks or chiefs, who are diſtinguiſhed by wearing a bone on their arm, a badge of honour, wherewith he inveſted the captain of the Engliſh, to whom he truſted his ſecond ſon, Lee Boo, an amiable youth, who died of the ſmall pox in England, in 1784.

Some of the principal iſles in the Indian and Pacific oceans, longer known to the Europeans, than all thoſe already mentioned, are in ſucceſſion in a ſort of route or tract, from the Cape of Good Hope, to Kamtſchatka, as follows, Madagaſcar, Comora Iſlands, Iſles of La Reunion

Reunion and France, Maldives, Ceylon, Sumatra, Java, Borneo, Celebes, Molucca, and Banda Iſlands, or, as they are more generally called, the Spice Iſlands, Philippine Iſlands, Ladrone, or Marian Iſlands, Formoſa, Iſles of Japan and Jeſſo, and Kurile Iſles; and between Kamtſchatka and America lies the Northern Archipelago.

118. *Madagaſcar.* Madagaſcar is a large, pleaſant, and well-watered iſland. Vegetation is very quick here; the ſoil requires little labour, and naturally produces rice, potatoes, bananas, pine-apples, indigo, hemp, cotton, ſilk, ſugar, palms, cocoas, oranges, gum-trees, and timber. The paſtures are excellent, and are covered with oxen of the largeſt kind, and ſheep exactly reſembling thoſe of Barbary. This iſland is divided into a great many provinces, each of which has a chief, called Dian or Lord, whoſe enſigns of dignity are his ſlaves and flocks. His council is compoſed of magiſtrates, who reſide in the villages to preſerve peace and adminiſter juſtice. He can neither declare war without their conſent, nor ſupport it without the voluntary contribution, and actual aſſiſtance of the people.

The province of Anoſſi, poſſeſſed by the Arabs, for ſeveral centuries paſt, differs in it's government. It is divided into diſtricts, each of which has a petty ſovereign, called Bonandrian, or deſcendant of Abraham. Theſe people have not yet attained that depth of black in their complexions, which marks the natives in the interior; they have not the liberty of thoſe, and they are in the ſame proportion deſtitute of good morals.

The people of Madagaſcar are extremely ſuperſtitious, and, in their uncouth notions of aſtrology, neither ſee nor imagine, any thing which they do not connect with futurity. They obſerve the initiatory rite of the Hebrews, the company taſte or ſwallow the blood, and conclude the ceremony with feſtivity, dancing, &c. They practiſe polygamy, marry early, and ſeparate at pleaſure, when both parties are at liberty to marry again. They ſeal their treaties or engagements with oaths, on which occaſions, he who repreſents the nation, puts into a veſſel, filled with brandy, ſome gold, ſilver, gun-flint, if poſſible, ſome of the duſt of the tomb of his anceſtors, and frequently blood, which, after the manner of the ancient Scythians, the parties draw out of their own arms by inciſion. During theſe preparatives, their weapons are laid on the ground in the form of a croſs. Soon after, both parties take them up, and hold them with the point in the cup, conſtantly ſtirring the contents till the agreement is made. The company then drink out of the cup till it is empty; after which they embrace and retire. When a man dies, the whole neighbourhood is appriſed of it by lamentations; and ſuch is the reſpect they ſhew for their anceſtors, that it is no uncommon thing, to ſee men of all ages, weep over the tombs of their fathers, and call for their advice in the moſt important occurrences of life. Though in general they admit the prevailing doctrine of the two principles, they have but a confuſed notion of it, and exhibit no particular form of public worſhip whatever. In dreſs, their greateſt finery is a pagne over their ſhoulders, and another over their waiſts.

119. *Comora*

119. *Comora Iſlands, and Socotora.*] The Comora iſlands, that lie in the Mozambique channel, between the coaſt of Zanguebar and Madagaſcar, are five in number, and take their name from Comora, the principal one in this ſmall archipelago. This, Mayota, Mocci, and Anjuan are but little known to us. The Engliſh Indiamen put in at the iſle of Joanna, a delightful ſpot, about thirty leagues in circumference, where hills, that are ever green, and valleys that are always gay, preſent a variety of luxuriant and beautiful landſcapes. Thirty thouſand inhabitants, diſtributed into ſeventy-three villages, ſhare it's productions. They ſpeak the Arabic language, and their religion is a ſort of Mahometaniſm.

Socotora, or Zocotra, between Africa and Arabia, is alſo ſometimes viſited by the Eaſt Indiamen, and nearly anſwers the above deſcription as to it's inhabitants and productions. It yields, beſides the fruits and plants uſually found between the tropics, frankincenſe, gum-tragacanth, and the Socotrine aloes.

120. *Iſlands of La Reunion, France, and Rodrigue.*] The iſles of La Reunion, or ci-devant Bourbon, France, and Mauritius, or Rodrigue, to the eaſt of Madagaſcar, belong to the French. The two former are mountainous, but pleaſant, fertile, and populous: the Iſle of France produces great quantities of ebony and other valuable woods, and has a capacious harbour; and the little iſland of Rodrigue ſupplies abundance of turtle.

121. *Maldivia Iſles.*] The Maldives lie off Cape Comorin, and extend from ſeven deg. twenty min. north, to one deg. ſouth latitude, but are in no place more than forty leagues broad. The natives are Mahometans, and thoſe who have viſited Mecca have the privilege of wearing long beards, as marks of ſuperior ſanctity. They are ſaid to excel in manufactures, in literature and ſciences, and to have a particular eſteem for aſtronomy.

Theſe iſlands are ſmall, but very numerous. The prince, who exerciſes his ſovereignty over them all, is called Sultan of thirteen provinces, and twelve thouſand iſlands. But there is certainly much exaggeration in this ſounding title, and many of the real iſlands are uninhabited; ſome being only fluctuating hills of ſand and barren rocks, and the very largeſt, called Male, where the king uſually reſides, is no more than a league and a half in circumference.

Few Europeans (except the Dutch) viſit theſe iſlands. They carry on a very profitable trade here in a beautiful ſpecies of ſhells, called *couries*, which were formerly uſed as money by the negroes on the Coaſt of Guinea in Africa. Among other vegetable productions in theſe iſlands, is a particular ſpecies of cocoa-tree, whoſe fruit is an excellent medicine in fevers: this tree grows to a large ſize, and, it is confidently aſſerted, that the Maldivians have veſſels of twenty or thirty tuns burthen, whoſe hulls, maſts, ſails, rigging, anchors, and cables, are all made from this tree. It alſo affords them oil for their lamps, fuel to dreſs their food, a pretty ſtrong kind of cloth, ſugar, and candied ſweetmeats.

122. *Ceylon, Andoman, and Nicobar.*] The Iſland of Ceylon, near Cape Comorin, on the coaſt of Coromandel, is two hundred and fifty miles

miles long, and two hundred broad. This fertile iſland, producing almoſt all the fruits and riches of the Indies, is the original place of the growth of cinnamon, from which the Dutch reap ſuch extraordinary profit; this people expelled the Portugueſe from the iſland, and are now in poſſeſſion of all the ſea-coaſt, and to the diſtance of ten or twelve leagues up the country.

The Bedas, in the northern part of the iſle, appear to have been the firſt inhabitants. Their manners and government appear to be ſimilar to that of the Highlanders in Scotland formerly, they being diſtinguiſhed into tribes, which conſider themſelves as ſo many families, headed by a chief, whoſe power is not abſolute. Their religion is little known, and it is uncertain whether they obſerve any form in their worſhip. They go almoſt naked, have little intercourſe with ſtrangers, keep a watchful eye over thoſe who travel through the diſtrict they inhabit, treat them well, and ſend them away as ſoon as poſſible.

The Cinglaſſes, a more numerous people, poſſeſs the ſouthern part of the iſle. They wear cloaths, live under an arbitrary government, and have a diſtinction of caſts, like the Hindoos, or Indians, but their religion is different.

They have, by tradition, ſome knowledge of the Hebrew ſcriptures, and believe that Ceylon was the Garden of Eden, or terreſtrial paradiſe. Some ſuppoſe that the fleets of Solomon traded with the Cinglaſſes, and that from them they derived their information; while others think that they owed it to the Jews, many of whom, it is ſaid, were ſettled in the hither peninſula by Nebuchadnezzar.

They acknowledge one ſupreme being, and believe their ſaints and heroes to be divinities of the ſecond and third order in ſubordination. Among their deities of the ſecond order, particular honours are paid to Buddon, who, they ſay, deſcended upon earth, to take upon himſelf the office of mediator between God and mankind. The prieſts of Buddon are perſons of great conſequence in Ceylon; they are not puniſhable by the prince, even for an attempt againſt his life.

The Andoman and Nicobar iſlands lie near the entrance of the Bay of Bengal, and furniſh the veſſels that touch there with freſh proviſions, and tropical fruits. They are in general overrun with woods; but being deſtitute of thoſe rich mines, and odoriferous groves, which have ſo often proved the bane of the poor natives wherever they were found, no European nation has ever attempted to make a ſettlement there. The inhabitants are a friendly and inoffenſive people, ſeem to pay a kind of adoration to particular caves, and expreſs the greateſt joy at the appearance of the moon.

123. *Sumatra, Java, Borneo, &c.*] The iſlands in the Indian Ocean, near the Straights of Sunda, are called the Sunda Iſlands. The chief of theſe are Borneo, Sumatra, and Java; the ſmaller ones are Bally, Lamboe, and Banca.

Sumatra, an iſland 900 miles in length, and from 100 to 150 in breadth, from the plenty of gold it produces, has been conjectured to be the Ophir of the Hebrews. The Engliſh and Dutch have made a few ſettlements on the coaſt. In this large, fertile, and pleaſant iſland

the woods are much infeſted with tigers, and the rivers with alligators, and, though great numbers of the people fall victims to their ferocity, they ſeem to have a ſuperſtitious apprehenſion of uſing efforts to deſtroy them.

The rites of marriage among the Sumatrans are very ſimple, ſomewhat like thoſe of the people called Quakers: the parties, joining hands, enter into covenant, and are pronounced man and wife; a feſtival follows, which is attended not only by the relations, and invited gueſts, but by all who chuſe to repair to it; and the greater the concourſe, the more is the credit of the hoſt, who is, generally, on theſe occaſions, the father of the bride; and, to make the ſimilitude more complete, it may be remarked, that the ancient uſage of a marriage-feaſt is not yet relinquiſhed by the profeſſors of plainneſs and ſimplicity alluded to. Polygamy is allowed, but very little practiſed in Sumatra. Mothers carry their children here, not on the arm, as our nurſes do, but ſlung on one ſide, which is a ſafer method, leſs tireſome to the nurſe, and the child has the advantage of ſitting in a leſs conſtrained poſture. They ſwing their cradles ſuſpended from the ceilings of the rooms; but the children are not much nurſed, nor confined by any ſwathing, or bandages; and, being ſuffered to roll about the floor, they ſoon learn to walk, and ſhift for themſelves. The inhabitants are divided into Malays, which is underſtood to mean Muſſulmans, they having learnt to read Arabic, and ſubmitted to circumciſion, Achaneſe, Lampoons, Rejangs, and Battas. Theſe laſt live in the interior, and differ from the other inhabitants in language, manners, and cuſtoms. They eat the bodies of their ſlain enemies, and hang up their ſkulls, as trophies, in their houſes. The Sumatrans take great delight in the barbarous diverſion of cock-fighting.

Enganho is an iſland about 60 miles from Sumatra, ſurrounded with rocks and breakers. The inhabitants are tall, ſtout, go naked, appear armed with lances and clubs, and ſpeak a different language from the inhabitants of any of the neighbouring iſlands.

Java is a fertile and pleaſant iſland. The inhabitants, near the ſea-ſide, are generally Mahometans, but within land they are a ſort of Gentoos, abſtaining from fleſh of all kinds. The women of Java are yet more abſurd than thoſe of Europe, in their affectation of reſerve towards the other ſex; and 'the duty of marriage,' when they have entered into covenant, it is the pride of the men to fulfil as ſoon as poſſible; the women, on the contrary, endeavour to protract it. The conteſt ſometimes laſts for ſeveral weeks; and, what will faſhion not reconcile! the bridegroom, on it's termination, even gives public entertainments, in celebration of his triumph.

Java is principally in the poſſeſſion of the Dutch. The capital of it is Batavia, the reſidence of their governor-general of the Indies, who lives here in all the pomp of oriental magnificence; it is the general place of rendezvous for their Eaſt-India fleets, which five times a year depart from hence in ſquadrons for Europe.

The ſuburbs of Batavia, which are inhabited by perſons of almoſt every nation, are more populous than the city itſelf; the Chineſe, in particular, are computed at 100,000, though 30,000 of them were cruelly

cruelly maſſacred in 1740, by order of the Dutch governor, who, after this wicked action, embarked for Europe; but, on his arrival at the Cape of Good Hope, he was apprehended by an order from the States, and remanded back to Batavia, in order to be tried; he, however, never reached that city; it was ſuſpected that he was thrown overboard on his paſſage, in order to prevent an enquiry into an action deteſted by all mankind.

Borneo, the largeſt of the Sunda Iſlands, is 800 miles long, and 700 broad; it is unſhackled with European ſettlements, and it's trade is open to all nations: it's harbours, particularly thoſe of Banjar, Maſſeen, Succadana, and Borneo, are much frequented by adventurers. Here the Chineſe keep ſhops and retail goods.

The Byayos, or original inhabitants, are ſubject to many petty kings of their own, and inhabit the moſt inacceſſible mountains; they are a moral, chaſte, and inoffenſive people, and extremely ſocial with each other. The ſea-coaſts are inhabited by Malayan Moors, who are governed by Mahometan princes; but the profeſſion of the iſland is a mixture of idolatry and Mahometaniſm.

124. *Spice Iſlands.*] The iſland of Celebes, or Macaſſar, which, in a general view, may be conſidered as one of the ſpice iſlands, is 500 miles long, and 200 broad, and lies under the equator. The Dutch have a fortification on it; but the internal part of it is governed by three of it's own kings, the chief of whom reſides in the town of Macaſſar.

In this, and almoſt all the other oriental iſlands, the houſes are raiſed on poſts, on account of the floods, and they are only acceſſible by ladders, drawn up at night for their ſecurity againſt venomous reptiles. The natives, whoſe port of Jampoden is the moſt capacious in that part of the world, carry on a conſiderable trade with the Chineſe.

The inhabitants of Celebes formerly acknowledged no other gods but the ſun and moon. They ſacrificed to them in the public ſquares, having no materials which they thought valuable enough to be employed in raiſing temples. On their learning the opinions of the Chriſtians and the Mahometans, theſe ſimple people were ſtruck with diſmay, as both parties threatened them with eternal puniſhment, if they did not yield to their doctrines. Concluding that one of the new ſyſtems of religion was the true one, notwithſtanding theſe impious threats, the principal king of the country convened a general aſſembly; and, imagining that the divine power would be manifeſted in ſupport of the true apoſtles, in an addreſs to the Supreme Being, made uſe of the following expreſſions, amongſt others: "The winds and the waves are the miniſters of thy power, let them be the ſignals of thy will:—I ſhall acknowledge, as the depoſitaries of the oracles, the miniſters of either religion, whom thou ſhalt cauſe the firſt to arrive in our harbours."

The miſſionaries of the Koran were the moſt active, and the ſovereign and his people were circumciſed; the other parts of the iſland ſoon followed their example.

The Molucca and Banda Iſlands, or (as they are more generally called) the Spice Iſlands, are ſixteen in number, and lie under the equator; the principal of them are Ternate, Tydore, Machian, Motyr, Bachian, Amboyna, Gilola, Banda, and Celebes. Theſe iſlands, which produce ſuch amazing quantities of cloves, mace, and nutmegs as to ſupply the whole world, had added to the luxuries of Europe above two thouſand years before we knew to what part of the earth we were indebted for them. The Egyptians, Arabians, and Perſians formerly brought them through the Red Sea, and from thence, by the navigation of the Nile, or by caravans, to the coaſt of Egypt, where the Greeks, Romans, and Carthaginians, and after them other ſucceeding nations, reſorted to purchaſe the ſilks and ſpices of India; till, about three hundred years ſince, the Portugueſe, having doubled the Cape of Good Hope, ſettled factories in different countries in the Eaſt, and, at length, diſcovered the native land of fragrance and ſpices. The Engliſh, under command of Francis Drake, were the next Europeans who viſited theſe iſlands; but the Dutch have expelled them both, garriſoned the iſlands, and monopoliſed the ſpice trade to themſelves.

It is not known who were the firſt inhabitants of theſe iſlands; but the Javans and Malays have ſucceſſively been in poſſeſſion of them. At the beginning of the ſixteenth century, they were inhabited by a ſimple people, who had lately joined the ſuperſtitions of the Mahometans to thoſe of Paganiſm. Their chiefs, though called kings, poſſeſſed only a limited authority, totally dependant on the will of the people. Temperate, independent, and averſe from labour, they lived on the pulp and milk of the cocoa, and the meal of the ſago: their only employment was hunting and fiſhing. The Indians eat the ſago diluted with water, and, from a principle of humanity, reſerve the fineſt part for the aged and infirm.

125. *Philippine Iſles.*] The Philippines, when diſcovered by Magellan, received this name in honour of Philip II. of Spain, who coloniſed them, but were formerly known by the name of the Manillas. They are about 1100 in number, and very fertile; but the principal of them are Manilla, or Luconia, Samar, or Philippina, Maſbate, Mindoro, Luban, Paragoia, Panay, Leyta, Bohol, Sibu, Negro Iſlands, St. John's, Xolo, and Mindanao.

They form an immenſe archipelago to the eaſt of Aſia. The mountains are peopled by a ſimple race, who have no ſettled habitation, and feed upon the fruits and roots which they find in the woods. When they have exhauſted one ſpot they go and feed upon another. All endeavours to reduce them to ſubjection have proved ineffectual. Theſe appear to be the oldeſt inhabitants of the country. From an analogy obſerved between their language and that of Malabar, it has been ſuſpected that they might have poſſibly come from that fruitful region of India.

The plains from which they have been driven, have been ſucceſſively inhabited by colonies from China, Siam, Sumatra, Borneo, Macaſſar, Malacca, the Moluccas, Arabia, Spain, Portugal, and the other parts of Europe. The manners, religion, and government of theſe

theſe ſtrangers evidently diſtinguiſh their ſeveral origins. The Meſtes are a mixture of theſe different people.

The city of Manilla, the capital of all the Philippines, which is finely ſituated, and has as convenient and ſafe a port as any in the world, is a large, wealthy, and populous place; the houſes are elegant, the ſtreets wide and regular; and ſeveral of the edifices ſuperb, both public and private. Two veſſels ſail annually from this port to Acapulco in New Spain, loaded with the precious produce and manufactures of the eaſt, and return freighted with ſilver; they belong to the king of Spain. It was one of theſe rich returning galleons which was taken by Anſon in 1743.

126. *Ladrones.*] The Ladrone, or Marian Iſlands, ſituated 100 degrees eaſt of the Philippines, are about twenty in number, and were diſcovered by Magellan in 1521. Notwithſtanding their ſituation in the torrid zone, the climate is pretty temperate, the air pure, the ſky ſerene, and the ſoil fruitful. The people, who were very numerous, and diffuſed in twelve iſlands, the only inhabited ones in this archipelago, have gradually diminiſhed ſince the invaſion of the Spaniards. The remainder, to the number of 7200 perſons, have collected themſelves in the centre of the Iſle of Guam, which may be from 25 to 30 leagues in circumference. The Spaniards have a ſmall ſettlement here, and moſt of their galleons touch here in their voyage from Acapulco, in America, to Manilla.

Tinian, another of the Ladrones, was once well peopled, but a dreadful mortality ſwept off the greateſt part of the natives, and the remainder removed to Guam. Several Engliſh navigators have touched at this iſland, particularly Anſon, who met with great refreſhment for his crew, not leſs from the ſalubrity of it's air, than from it's fruits and other vegetable productions, many of which are powerful antidotes againſt the ſcurvy.

The flying proas of the original natives are ſaid to ſail after the rate of near ſeven leagues an hour.

127. *Formoſa.*] The luxuriant iſland of Formoſa receives it's name from it's extraordinary beauty: it lies to the eaſt of China, and ſince the middle of the 17th century, pretty much anſwers the deſcription of that country. At that time above 100,000 Chineſe ſought refuge here from the Tartars, who made a conqueſt of their country. The inhabitants whom they found here, ſeemed, from their manners and appearance, to be deſcended from the Tartars in the moſt northern regions of Aſia, and probably found their way through the country of Corea. They lived chiefly by fiſhing and hunting, and wore ſcarcely any covering. They are repreſented as an inoffenſive, diſintereſted people, of great purity of manners, and ſocial, benevolent, and ſincere; they ſtill poſſeſs part of the eaſtern quarter of the iſland, and retain all their primitive cuſtoms.

128. *Iſlands of Japan.*] Japan, or Niphon, Bongo, Tonſa, and Dezima, form together what has been called the empire of Japan.

The Japan, or Niphon Iſlands, are ſituated between thirty and forty-one deg. north latitude, and between one hundred and thirty, and one hundred and forty-ſeven deg. eaſt longitude. The air is healthy in al-

moſt every part of this empire, the ſoil fruitful, and highly cultivated, producing corn, rice, tea, a vaſt variety of fruits, timber, &c. Here are numerous herds of cattle, and the mountains afford mines of gold, ſilver, copper, tin, lead, and iron, and quarries of ſlate and marble.

There are four volcanoes in Japan, one of which is very dreadful; and in the neighbourhood of theſe burning mountains are ſeveral medicinal ſprings. Among the artificial curioſities is a famous coloſſus of copper, gilt; it is of a prodigious ſize, it's thumb being fourteen inches in circumference, and the other parts in proportion.

The Japaneſe are very ingenious mechanics, and excel the Chineſe in the various works which are common to both nations. They are very fair dealers, but, under pain of crucifixion, have expelled the Portugueſe, who had made near a third part of the empire proſelytes to their faith. Many of the converts ſuffered martyrdom with the moſt unſhaken fortitude, and, after being harraſſed near forty years, thirty-ſeven thouſand of them, attempting, at length, to defend themſelves by arms, were all cut off in one day. The intrigues of the miſſionaries themſelves, the jealouſies of the bonzi, or prieſts of Japan, and the ſecret machinations of the Dutch adventurers, are all blamed for bringing about theſe cruel perſecutions. The Dutch are now the only Europeans who are allowed to trade here, and even theſe are under the moſt humiliating and degrading reſtrictions.

The language of Japan is ſimilar to that of China, but much more grammatical, copious, and polite; they alſo write in characters, but they are different from the Chineſe. The bonzi, or prieſts, ſtudy philoſophy, mathematics, &c. and teach the ſciences to youth in their academies, of which they have great numbers.

The groſſeſt idolatry prevails in Japan; and, in common with other nations of the eaſt, they believe in the metempſychoſis, or tranſmigration of the ſoul.

There are two ſects in this country very oppoſite in their practices. That of Xinto is the ancient eſtabliſhed religion of the country; they acknowledge a ſupreme being, and the immortality of the ſoul, but pay adoration to a great multitude of gods, ſaints, or camis, that is to ſay, the ſouls of eminent men. It is by authority of this religion, that the Dairo, ſovereign of the ſtate, and high prieſt of the gods, from whom he claimed his deſcent, reigned over his ſubjects with deſpotic ſway. The voluptuous ſect of Xinto, inſtituted feſtivals, and abandoned themſelves to ſenſual pleaſures. They had their temples in the midſt of groves, where, after their formalities, they reſorted to courtezans, and an order of monks directed and ſhared the profits ariſing from the proſtitution.

The Budzoiſts, on the other hand, were auſtere in the extreme. The prieſts of this ſect kept the minds of their followers in a continued ſtate of torture, between remorſe and expiations for imaginary ſins. They repreſent their gods as always deſirous to puniſh, and always offended; and, with unrelenting cruelty, inflict, with their own hands, the ſevereſt tortures on the victims of ſuperſtition, their infatuated diſciples.

The Japaneſe children are made to get, by heart, poems, in which the actions of their forefathers are celebrated, a contempt of life is inculcated, and ſuicide is ſet up as the moſt heroic of all actions.

Jeſſo is a large iſland to the north of Niphon, and tributary to it; the inhabitants of which are robuſt, and live by hunting and fiſhing.

129. *Kurile Iſlands, and Northern Archipelago.*] The ſea which ſeparates Japan from Kamtſchatka, contains a number of iſlands, which are called the Kuriles. They are upwards of twenty in number, are all mountainous, and, in ſeveral of them, there are volcanoes and hot ſprings. Here the empires of Ruſſia and Japan meet together, the northern iſles acknowledging the ſovereignty of the former, the ſouthern that of the latter, with whom they carry on ſome trade. The inhabitants diſcover much humanity and probity in their conduct, are courteous and hoſpitable, and ſhew particular reſpect to old age.

The Northern Archipelago conſiſts of ſeveral groups of iſlands between Kamtſchatka and North America. Some of them are only inhabited occaſionally, and, for ſome months in the year, ſome are very thinly peopled, but others are pretty populous. The inhabitants are in general of ſhort ſtature, and very ſtrong and active.

The moſt perfect equality reigns among theſe iſlanders. They have neither chiefs nor ſuperiors, neither laws nor puniſhments. They live together in families, and ſocieties of ſeveral families united, which form what they call a race, who mutually help and ſupport each other. The inhabitants of the ſame iſland always account themſelves of the ſame race; and each looks upon his iſland as a poſſeſſion, the property of which is common to all the individuals of the ſame ſociety. Feaſts are very common among them, and more particularly when the inhabitants of one iſland are viſited by thoſe of the others. The men of the village meet their gueſts, beating drums, and preceded by the women, who ſing and dance. At the concluſion of the dance, the hoſts ſerve up their beſt proviſions, and invite their gueſts to partake of the feaſts. Hunting and fiſhing form a principal buſineſs of their lives: they ſeem cool in their tempers, but when arouſed are very violent: like the Japaneſe, they ſeem not to have an abhorrence of ſuicide, but ſometimes put an end to their days with great apparent inſenſibility.

SECTION XI.

The Continental Parts of Aſia, including the Tartars, Chineſe, Hindoos, Perſians, Arabs, Turks, &c.

Having at length completed, by deſultory tracts, our view of the iſlands of the South Sea, and of thoſe which are ſcattered along the way, from the moſt ſouthern part of Africa, to the place where the continents of America and Aſia approach each other, in a high north-

ern latitude, we may now make our deſcent, in the ſame ideal way, on the eaſtern ſhores of the Pacific.

130. *General View of Aſia.*] The hiſtory of Aſia affords an extenſive and varied picture of climates and ſoils, of manners and men, of living creatures and natural productions. The nations, who firſt receive the light of the morning, are the Tartars on the north-eaſt; and, in ſucceſſion, the Chineſe, the natives of Cochin-China, Tonquin, Siam, Malacca, Pegu, and India, the Perſians, and Arabians. Turks, and Ruſſians alſo, with the nations which are ſubject to them, as well as the Arabs, inhabit the weſtern parts of Aſia.

From the variety of climates through which this very large quarter extends, the ſoil varies from the ſterility of the ſandy deſart, and the everlaſtingly frozen clod, to the luxuriancy of the tropical landſcapes, ever cloathed with the verdure of ſpring, and the fulneſs and luxuriancy of ſummer and autumn; it's inhabitants alſo bear every variety of tinct, from the fair complexion of Circaſſia, to the olive and black of Indoſtan and Malacca. Aſia has been celebrated as having been the ſcene of the moſt important tranſactions; as the creation, the deluge, the confuſion of languages, and conſequent diſperſion of the human race, the eſtabliſhment of the Hebrews, and their diſperſion, and the introduction of Chriſtianity. Aſia was likewiſe the ſcene of the life of Mahomet.

The mere deſtroyers of the human race, the ravagers of towns, and the deſolators of countries, excite terror in their day, and ſpread extenſive ruin, which it may take ages to repair; ſuch have been Alexander, Genghiſcan, and Tamerlane; ſuch has been, in degree, every warrior from Nimrod to the preſent day; but when, like Mahomet, they add alſo dogmas, and ritual obſervances to the rueful deeds of arms; when they mingle ſuperſtition with the horrors, the violence of war, when they eſtabliſh the idea among a people, that they are the peculiar favourites of heaven, the orthodox, the faithful; that the other races of mankind are infidels and unbelievers, whom they may not conſider as children of the ſame father, as brethren of the ſame family; the miſchief they produce, baffles all deſcription. In their own lifetime theſe moſt mighty hunters ſet one tribe of men againſt another, and the battle is continued down to the lateſt times: children are nurſed up in the prejudices of their fathers, and hence, inſtead of paſſing along together cordially through this life, which, at beſt, is but a vale of tears, and therefore better ſuited to our preſent ſtate of being, (for who has not experienced that affliction ſweetens the ſpirit?) by our mutual ſtrifes and animoſities, our prejudices and bigotry, we convert it into an howling wilderneſs; many of the endearments of domeſtic life, or good neighbourhood, are ſtifled and unknown; the peace and harmony of nations are interrupted and deſtroyed; and religion, pure and undefiled religion, which, to let it have it's perfect work in the world, would do away the confuſion of Babel, and melt down all the different nations and languages into one people and one language, into one family, with all it's members mutually intelligible and agreeable to each other all over the earth, religion is driven from the ſocieties of men, prejudice and ſuperſtition take it's place, and cauſe, create, and multiply the evils of ſociety.

The

The accounts that we have of Mahomet, inform us, that he acknowledged the divine miſſion of Moſes, and of Jeſus; but that their doctrines having been perverted, rejected, or corrupted, he was ſent, the laſt and greateſt prophet, into the world, with a new and more excellent law, which he was to enforce by the power of the ſword, and conſiſtently with his declaration, he enjoined the ſame violent means on his followers, promiſing to all, who ſhould loſe their lives in ſuch a ſervice, a peculiar ſort of beatitude in the world to come; Mahomet, and the ſucceeding caliphs, ſpread their conqueſts over a great part of Africa and Aſia, and alſo into Europe, and the doctrines of the Koran are embraced over a great part of the Eaſt, at this day.

The diviſion of the Hindoos in Aſia, into different caſts, is thought to have been an eſtabliſhment of Bruma, the founder of the religion of the Bramins, and is another inſtance of the melancholy effects of ſuperſtition. Theſe gentle and peaceful creatures, inſtead of mingling conſtantly together, in the pious offices of humanity, ſtand aloof, the different caſts from each other, and from the reſt of the world, and would account themſelves polluted by mingling with them.

The religion of the Tartars ſeems to be of above 3000 years ſtanding, is profeſſed all over Thibet and Mongalia, is almoſt univerſal in Great and Leſs Bucharia, and ſeveral provinces of Tartary, and has ſome followers in the kingdom of Caſſimere in India, and in China. It is founded on the exiſtence of a Supreme Being, and very ſublime principles, but the reverence they ſhew to the great Lama, or Dalay-Lama, ſeems hardly clear of idolatry. The Lamas themſelves confeſs they are no gods, but pretend to repreſent the Divinity, and to have received a power from him, to decide ultimately on whatever relates to public worſhip. Their authority extends alſo to civil affairs; but theſe they look upon as profane and inconſiſtent with their dignity, and therefore leave the adminiſtration of them to others, whom they think worthy of their confidence.

Whatever has been ſaid of the evil of ſuperſtition, among the numerous nations of the eaſt, equally applies to the profeſſors of Chriſtianity. Theſe have, many of them, attempted to propagate their doctrines by fire and ſword. They have different caſts, under the name of church, ſects, connection, ſociety, &c. and they have generally their Lamas conſecrated or ordained, from the Vatican down to the Conventicle.

131. *Nations of Tartars.*] The Scythians were celebrated, in antiquity, for being a hardy race of people, living in tents, and leading a roving life; their deſcendants, the Tartars, anſwer the ſame deſcription to this very day. In bodies of ſome thouſands, with their families, their cattle, and all they poſſeſs, they wander about in the vaſt ſolitudes of the Aſiatic Continent, from the confines of Europe to the great Pacific Ocean. On meeting with a ſituation, fertile and pleaſant, they pitch their tents, and continue in the place, till the graſs is conſumed, when they again ſet forward in ſearch of another inviting ſpot. Their principal food is horſe fleſh and cheeſe, or dried curd, made up in little balls, which they crumble into water, and then drink or ſip it up. Their jackets are made of deer ſkins, with the fur outwards.

wards. Their chief employment from their infancy, is the management of their horſes, hunting, and the tending of their flocks, few arts being cultivated, except the making of arms; and in the uſe of theſe, and in riding, they ſhew uncommon addreſs and agility, cleaving a pole at a conſiderable diſtance, with an arrow, in full gallop. Hoſtilities often happen between the different hordes and their chiefs, and mark the life of the Tartar as a ſtate of continual warfare. If he perceives a track, or hears a ſound, as he croſſes the deſart, he is all upon the watch, and expects that a foe or booty is at hand, yet they are remarkably hoſpitable to their friends, and likewiſe to ſtrangers who put themſelves under their protection. Their filial affection is very great, and their women are remarkable for their modeſty and fidelity, adultery being a crime ſcarcely ever heard of among them.

The religion of the Lamas was, in early times, adopted over a conſiderable part of the Eaſt. The Great Lama was formerly, abſolute maſter of all Thibet, but now poſſeſſes only a part of it; his dominions, however, reach to the borders of Bengal, and the Engliſh Eaſt-India Company made a treaty with him in 1774. It has been generally imagined, that the followers of the Lama believe him to be immortal; that, in order to maintain the deception, he never appears, except to a few favourites; that, when he receives the adoration of the people, it is always in a kind of tabernacle, where a dim light ſhews him rather faintly; that, when he dies, another prieſt is ſubſtituted in his ſtead, as nearly of the ſame ſize and figure as poſſible; and that, by means of theſe precautions, the deluſion is kept up, even on the very ſpot, where the farce is acted, and much more in the minds of believers, who are farther removed from it. It is true, the great Lamas ſeldom ſhew themſelves, the better to maintain that veneration they have obtained for their perſons and myſteries; but they give audience to ambaſſadors, and admit princes who come to viſit them; and if their perſon be ſeldom to be ſeen, except on ſome important occaſions, or on great feſtivals, their picture is always in full view, being hung up over the doors of the temple at Putoli.

The circumſtance, that has given riſe to the fable of the immortality of the Lamas, is, that it is a tenet of their faith, that the holy ſpirit, which has animated one of theſe pontiffs, immediately upon his death, paſſes into the body of him who is duly elected to ſucceed him. The people of Thibet, as well as thoſe of Hindoſtan, ſeem to have a great veneration for the cow, and alſo highly reſpect the waters of the Ganges, the ſource of which, they believe, to be in heaven.

Another religion, which is very prevalent, is that of Schamaniſm. The Schamanes believe in one Supreme Being, the Creator of all things; that he loves all his creatures, knows every thing, and is omnipotent, but pays no attention to the particular actions of men, who are creatures too diminutive to be able to offend him, or to do any thing that can be meritorious in his ſight; that he has delegated the government of the world, and the deſtiny of men, to inferior divinities under his controul, who puniſh premeditated villainy, fraud, and cruelty. They believe women are beings inferior to the men.

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The Mongul Tartars, in the Eaſt, have fixed habitations, but do not make any outward ſhow of religion. They appear to be deiſts, and have treated the notion of erecting a temple to the Supreme Being, as groſs or abſurd.

Various forms of idolatry prevail in different parts of Tartary; in ſome parts, they bow to images, and in others, to the objects which are moſt uſeful to them, as to the ſkins of animals, becauſe they keep them warm.

Some of the Tartars are ſo ſuperſtitiouſly attached to certain forms in their whiſkers, that they declare enmity towards others, as not obſerving the orthodox cut. Some, as the Coſſacks, are ſo attached to their beard, that a Ruſſian officer having deprived ſome of the troops of it, a moſt violent inſurrection and a revolution have followed it; while others on the north-eaſt wear ſcarcely any beard at all.

A people ſo widely diſperſed over a tract of country, reaching from Perſia and India on the ſouth, to the regions of the pole; and comprehending in itſelf a variety of climates; ſo uncollected as they are, and ſo mixed on their extreme confines, with nations of very different manners, from their different ſituations naturally deviate from any general deſcription. Thus, far to the north, they dig ſubterraneous habitations, to ſcreen themſelves from the cold and ſeverity of winter; and inſtead of horſes, they make uſe of rein-deer and dogs, to draw them over the ſnows, while on the ſouth, particularly at Aſtracan, they practiſe ſomething of agriculture, manufactures, and commerce: they alſo, accordingly as they border on or commix with the Ruſſians, the Turks, Perſians, Indians, or Chineſe, profeſs Chriſtianity, or the doctrines of Mahomet, Zoroaſter, or Bruma, Fohi, Confucius, or Li Laokun.

As Tartary includes, in it's extenſive range, a variety of nations of different manners, languages, and religious profeſſions, which cannot be involved in any general deſcription, we might now paſs on to the empire of China; but as the conduct of the two ſexes towards each other forms an intereſting part of the hiſtory of man, of the order of ſociety, we may juſt glance at what has been exhibited of this, at the oppoſite extremities of this extenſive tract of the earth, before we paſs the celebrated wall which ſeparates the Tartars from the Chineſe.

The Circaſſians, one of the Caucaſian nations, lying between the Black Sea and the Caſpian, are included, with ſeveral of their neighbours, under the general appellation of Cuban Tartars, by the Ruſſians. The Koriacs, on the North of Tartary, border on the Kamtſchatdales, and are in ſome degree tributary to the Ruſſians. Theſe are the people alluded to.

The women of our country, now twitched up into the inſect form, hereby deſtroying their tender frames, and again putting on the appearance of pregnancy, according to the faſhion of the day; our women, with all their obliquities, their falſe delicacy, whether real or affected, their pretended averſion to the men, their requiring entreaties from theſe, their waiting to be courted, inſtead of pioufly declaring the tender affections, which they may be favoured to feel; their artful manner of yielding to thoſe entreaties, when the youth, like a go-

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thic knight, is bowing at the ſhrine of this *déeſſe* of his ſoul. The women of our country, though vaſtly more fickle or unſteady, do not carry their affectation ſo far, as thoſe of Circaſſia. With them, the ſlender waiſt is beauty, and reſerve towards the men is decency or virtue; from their infancy, they are conſtantly girt about the waiſt with a broad belt of leather, which is ſewed on, and continued, till by her growth it burſts open, and falls off; it is then replaced by another, and this practice is ſucceſſively continued till ſhe arrives at full growth. Before marriage, the youth of both ſexes ſee each other freely, at the little rejoicings, which take place on feſtivals; before the ball, the young men ſhew their activity and addreſs in a variety of military exerciſes, and the moſt alert have the liberty of chuſing their partners; but when the buſineſs becomes ſerious, when a marriage actually takes place, then the utmoſt reſerve is adopted by the female; her girdle muſt only be looſened, as the gordian knot is ſaid to have been by the ſword of Alexander: the huſband muſt cut it with his dagger, and this cuſtom, it is ſaid, has been productive of fatal accidents.

In the general wreck of good ſenſe and good manners, that has taken place in the world, it muſt have occurred to many, as a matter rather wonderful, that marriage continues to be reputable. It has been ſuperſtitiouſly rejected by many eccleſiaſtics; in the Engliſh univerſities, it ſtands in the way of preferment and emoluments; but happily the people at large, are not aſhamed to acknowledge it. It is otherwiſe in Circaſſia; there the huſband muſt not be permitted even to ſee his bride in preſence of a ſtranger, and this reſerve continues during life; though, at the death of either of them, the ſurviving partner ſhews the moſt violent grief. The habitation of a Circaſſian is compoſed of two huts, becauſe the wife and huſband are not to be ſuppoſed to live together; one of them is allotted to the man, and the reception of ſtrangers, the other to the wife, and the reſt of the family, and the court which ſeparate them, is ſurrounded by paliſades. At meals, the whole family is aſſembled, ſo that here, as among the other Tartars, each village is reckoned at a certain number of kettles.

In paſſing along from the Circaſſians to the Koriacs, a people north of Kamtſchatka, we have to croſs the route, purſued by the caravans of the Ruſſians, on their traverſing the ſolitudes of Tartary, in their way to China, and the other nations of the Eaſt.

Among the Koriacs, the probation, to which a lover muſt ſubject himſelf, is ſevere in the extreme. His firſt ſtep is to wait on the relations of the object of his affections, and offer, as the phraſe is, to drudge for them. It was the complaint of Jacob, when purſued by Laban, that during his ſervitude, on a ſimilar occaſion, in the day the drought conſumed him, and the froſt by night; and his ſleep departed from his eyes. The hardſhips, to which the poor Koriac is ſubjected, ſeem to equal, or even in ſome reſpects to exceed thoſe of the patriarch. With the latter, every moment abridged the period of his ſufferings, and each returning day, brought him nearer his deſired goal. But how ſevere muſt be the ordeal of our Tartar of the North! On his

his offering his ſervices to the family, the maid is immediately enveloped in a multiplicity of garments, which conceal her to ſuch a degree, that even her face is ſcarcely viſible. She is not left alone for a ſingle inſtant; her mother, and a number of old matrons accompany her wherever ſhe goes, ſleep with her, and do not loſe her from their ſight, on any pretext whatever. It is the buſineſs of this female body-guard to keep him from touching her: if once he lay his hand upon her, the barrier is deſtroyed. It is a continual conteſt between vigilance and activity, and each party acts with equal zeal and perſeverance. In the mean time, he executes with earneſtneſs and ſubmiſſion, all the duties that the relations impoſe on him. Become, as it were, the ſlave of the family, he is employed in all the domeſtic labours of cutting wood, fetching water, providing ice, &c. The preſence of his beloved, and the hopes of obtaining her, ſupport him under his toils. If he happen to relax a ſingle look, however indifferent, is ſufficient to renew his courage, and make him forget the fatigues and drudgery of his ſervitude. In his leiſure moments, he is at liberty to ſee and approach her, and he endeavours to merit her affection, by ſome ſly or ſudden attempt to obtain a touch of her; but the number and thickneſs of her garments are almoſt an invincible barrier. She has but to ſecure her face, and ſhe is completely ſcreened from him. Impatient at ſo many obſtacles, he tears, and pulls off this teazing dreſs; but, if he be ſurpriſed in his raſh attack, the inexorable guards ruſh upon him, and with kicks and blows, endeavour to beat him off, and force him to relinquiſh his prize. If he reſiſt, he is dragged by the hair, or the nails of his opponents are imprinted on his face. If he be diſheartened, or murmur at this cruel treatment, he is inſtantly diſmiſſed, and entirely forfeits all claim to the alliance, which is conſidered, as the moſt ſignal diſgrace that can be inflicted on a Koriac lover. But difficulties only render his deſires more vehement. Far from deſponding at theſe rigorous proceedings, he conſiders himſelf as the more worthy of the felicity he has in view, and it is frequently, not till after the expiration of two or three years, that he obtains his end. Elate with his victory, he then flies to inform the relations of his ſucceſs. The witneſſes are ſummoned, and the young woman interrogated. Her confeſſion is neceſſary, as well as ſome proof, that ſhe was taken by ſurpriſe, and made fruitleſs efforts to defend herſelf. Even then, he is only at the place where the European begins. From that moment, freed from his labours, he makes his court without reſtraint, and the damſel is generally not long in yielding. Their manner of marriage is brief. As Iſaac brought Rebecca into his mother Sarah's tent, and took her, and ſhe became his wife, and he loved her; ſo this maid accords her conſent, in the preſence of the family, and nothing more is requiſite to give him all the claims of a huſband. But there is a feaſt on the occaſion, and the company generally gets intoxicated. A plurality of wives is not allowed among the Koriacs; although there have been inſtances of it's being practiſed without ſcruple.

When a Koriac dies, his relations and neighbours aſſemble to pay him their laſt reſpects. They erect a funeral pile upon which they place

place a portion of the wealth of the deceaſed, and a ſtock of proviſions, conſiſting of rein-deer, fiſh, brandy, and whatever they conceive he will want for his great journey, and to ſupport him in the other world. If he have been a wandering Koriac, his rein-deer conduct his body to the pile; if not a wandering Koriac, it is drawn by his dogs, or carried by his relations. The body is exhibited clothed in his beſt attire, and lying in a kind of coffin. There the attendants take their leave of it, and, with torches in their hands, conſider it as an honour to reduce it ſpeedily to aſhes; after which, they turn to drinking and ſmoking, and it uſually terminates in a ſcene of intemperance. Death is, in their view, but the paſſage to another life; and, in quitting the world, they do not imagine that their pleaſures terminate, but that other enjoyments are reſerved for them. They acknowledge a Supreme Being, the Creator of all things, and imagine that the ſun is his throne or palace. They addreſs no prayer to him: goodneſs, they ſay, is his eſſence; all the good that exiſts in the world proceeds from him; and it is impoſſible that he ſhould do an injury. The principle of evil, they conſider as a malignant ſpirit, who divides with the good being the empire of nature. As the one is intent on the happineſs of mankind, the other endeavours to render them unhappy. Diſeaſes, tempeſts, famine, and calamities of every kind, are his work, and the inſtruments of his vengeance. It is to appeaſe his wrath, that they offer up, as expiatory ſacrifices, various animals, newly born; as rein-deer and dogs, alſo the firſt-fruits of their hunting and fiſhing, and whatever they poſſeſs that is moſt valuable. They have no temple nor ſanctuary ſet apart for his votaries, wherein to do him that homage, which is dictated by terror. They hold that he is equally worſhipped in all places, and hears the Koriac, who prays alone to him in the deſert, as well as the aſſembled family, who conceive that they render him propitious by getting drunk in their yourt or hut; for drunkenneſs is conſidered, with theſe people, a religious practice, and the baſis or end of all their ſolemnities, if it be not an abuſe of words to call their orgies by ſuch a name. This demon ſeems to be the ſame being with the Koutka of the Kamtſchatdales, whoſe miniſters and interpreters the chamans conſider themſelves. Here, as in that peninſula, the myſtic language of theſe magicians, works upon their credulity, and obtains them the veneration of the multitude. They exerciſe phyſic and ſurgery; and, in theſe excluſive functions, are ſuppoſed to be aided by inſpiration, rather than the light of experience. This gives them an influence over the people, which they do not fail to turn to their own account. It is upon the pretext of making an acceptable offering to the god, whoſe organ they are, that they appropiate to themſelves, whatever the inhabitants poſſeſs, that is moſt coſtly and beautiful; and after their magic ceremonies, they drink profuſely of the moukamorr, an intoxicating poiſonous liquor, which is extracted from a red muſhroom, on account of the dearneſs of brandy, and other ſtrong liquors.

The Koriacs have frequent conteſts with their neighbours, and are continually making inſurrections againſt the Ruſſians; and this ſtate of war foments in them a ferocious ſpirit; they acquire an inflexible courage,

courage, delight in perpetual combats, and glory in a contempt of life. Superſtition lends it's aid, to ennoble, in their eyes, this thirſt of blood, by impoſing a law that obliges them to conquer or to die. The more important is the cauſe that calls them to arms, the more greedy are they of death. Neither the boldneſs nor the number of their adverſaries, can at all intimidate them; it is then they ſwear to deſtroy the ſun. They diſcharge this terrible oath, by cutting the throats of their wives and children, burning all their poſſeſſions, and ruſhing madly into the midſt of their enemies. The combat can only terminate by the total deſtruction of one of the parties. The vanquiſhed never ſeek their ſafety in flight; honour forbids it, and not a Koriac will ſurvive the ſlaughter of his countrymen.

Let us now quit this hardy and ferocious race of men, and take a curſory view of the people, and their land, whoſe delight is in peace. Leaving then, behind us, the Koriacs, the Ochotſki, Yakutſki, and Tunguſi, the Manſhurs, and the Monguls, with other hordes of Tartars, in ſucceſſion from the north, we, in our ideal way, at once paſs the wall, and make our deſcent upon China.

132. *China.*] This extenſive empire, is 2000 miles in length from north to ſouth, and 1500 in breadth from eaſt to weſt, and is divided into 16 provinces, which contain 3824 towns, many of which are immenſely large; and the land, and even the water, ſwarm with inhabitants. From the accounts of the late embaſſy, it appears that the population of Tienſin alone, a ſea-port in the province of Pekin, where they landed, amounted to many millions; and that their burying ground alone, an immenſe plain, extended farther than the eye could reach, and appeared bounded only by the horizon. To comprehend this account, we may ſuppoſe their ſepulchre to be a flat tract on the ſea ſhore; and we may alſo ſuppoſe, that the Chineſe, like the Brethren, or Moravians, have an objection to diſturb the aſhes of the dead. If any perſon die in the country, the dead body is not ſuffered to be brought into town, nor any corpſe to be buried there.

When we caſt our eyes around us, on the nations of Europe, and regard the numbers of their inhabitants, and the works which they have executed, notwithſtanding the barbarous policy which has pervaded their different governments, which, in the ſlaughter of the youth, has deprived the fields of their tillage, and cauſed ſo often the motion of the loom, and the noiſe of the hammer, to ceaſe; has deprived the daughters of the land, of the moſt tender endearments of life, and given them the lamentations of the injured daughters of Jephthah, inſtead of the joys of the delighted parent, and the charities, the ſympathies of a beloved wife; when we conſider how difficult ſubſiſtence is rendered to the people, by the creation of unreal wants, the continual contrivance of new luxuries, and ſuperfluities; when we reflect, in fine, how Europe has poured forth it's children to re-people the lands, which it's ravages had firſt deſolated, and has eſtabliſhed colonies and empires in every quarter of the globe: and that there yet remains in it's towns and fields, an increaſing population, we ſhall rather ceaſe to wonder at what is related of China, of the number of it's inhabitants, and of the ſtupendous works which they have erected.

The late embaſſy, on being ſhewn the palaces and gardens of the emperor, found in almoſt every apartment, a kind of throne, and on the left of each throne, a large agate, in a batten form, depoſited there as an emblem of peace in the empire. Peace is the favourite policy of the Chineſe; to preſerve it, if poſſible, their invariable maxim. Hence, while the other nations of the earth are mutually deſtroying each other, theſe people are enjoying the advantages of peace and multiplying in ſecurity.

They are alſo careful to turn their lands to the beſt account, they have but few, even of the moſt uſeful trees, as their fruits would rob the corn of it's nouriſhment. There are gardens, it is true, interſperſed with flowers, fine turf, ſhrubberies, and fountains; but, however agreeable theſe ſcenes might be to an idle ſpectator, they ſeem to be concealed and removed from the public eye, as if the owners were afraid of ſhewing how much their amuſements had incroached upon the ſoil, that ought to be cultivated for the ſupport of life. They have no parks or extenſive foreſts, which are not near ſo ſerviceable to mankind, by the wood they furniſh, as prejudicial by preventing agriculture; and while they contribute to the diverſions of the rich, by the beaſts that range in them, deſpoil ſociety of the means of ſubſiſtence. In China, the beauty of a country ſeat, conſiſts in it's being happily ſituated, ſurrounded with an agreeable variety of cultivated fields, and interſperſed with trees, planted irregularly, and with ſome heaps of a porous ſtone, which at a diſtance have the appearance of rocks or mountains.

The hills are generally cut into terraces, ſupported by dry walls. Here there are reſervoirs, conſtructed with ingenuity, for the reception of rain and ſpring water, which they diſtribute over the land with great induſtry and ſkill. Theſe heights commonly yield three crops in a year. They are firſt ſown with a kind of radiſh, which produces an oil; then with cotton, and after that with potatoes. The manner of culture is by no means uniform throughout this empire, but varies according to the nature of the ſoil, and the difference of the climate. In the low countries, towards the ſouth, that are much under water, they ſow rice, which grows to a great ſize, and yields two crops in a year. In the inland parts of the country, where the ſituation is lofty and dry, the ſoil produces a ſpecies of rice, which is neither ſo large, nor ſo well taſted, nor ſo nouriſhing, and makes the huſbandman but one return in the year for his labour. In the northern parts, the ſame kinds of grain are cultivated, as in Europe, which grow in as great plenty, and are of as good quality, as in any of our moſt fertile countries. From one end of China to the other, there are large quantities of vegetables, particularly in the ſouth, where, together with fiſh, they ſupply the place of meat, which is the general food of the other provinces.

But the improvement of their lands is univerſally underſtood and attended to. Upon moſt of the mountains, which are incapable of being cultivated for the ſubſiſtence of man, proper trees are planted for building houſes or ſhips. Many of them contain iron, tin, and copper mines, ſufficient to ſupply the empire. The gold mines have

been neglected, or ſlightly worked, and the currency of that metal is ſupplied by the grains the people pick up in the ſand of rivers and mountains. The ſilver ſpecie is furniſhed from the mines of Honan. But one of the fundamental maxims of the government is, that of not introducing a ſuperabundance of gold and ſilver, for fear of hurting induſtry.

The Chineſe reduce the wildeſt parts of their country to cultivation, repel the waters of the ſea, convert it's watery bed into habitable country, and accompliſh, for their convenience, and even for the gratification of their fancies, works, which the deſign of Europeans does not appear, in any age, to have been ſufficiently bold to have imagined. The ſandy plains, ſaved from the ravages of the ocean, form at this day, the provinces of Nankin and Tchekiang, which are the fineſt in the empire. As the Egyptians checked the courſe of the Nile, the Chineſe have repulſed, reſtrained, and given laws to the ocean. They have reunited to the continent, tracts of land which had been disjoined by this element. Such has been the employment of theſe peaceable people, while the other nations of the earth, by the rage of conqueſt, have been deſtroying one another, and inſtead of cultivating the uſeful arts, been deſolating the globe.

The waters alſo, as well as the land, exhibit the moſt lively proſpects of population. The rivers, which communicate with each other by canals, and run under the walls of moſt of the towns, preſent the ſcene of floating cities, compoſed of prodigious numbers of boats, filled with people, who live conſtantly upon the water, and whoſe ſole employment is fiſhing. Even their ſeas are covered with veſſels, whoſe maſts, at a diſtance, appear like moving foreſts.

The celebrated walls of the Romans, and other nations of antiquity, appear diminutive, when compared with that which divides China from Tartary. The canal of Yunlyangho, which traverſes the empire from north to ſouth, for the ſpace of 300 leagues, connecting ſeveral rivers, from Pekin to Canton, is of ſuch ſtupendous dimenſions, that it is navigated by the imperial barks, which are as large as the Britiſh frigates. Among their rocks and mountains, their roads are ſtill more aſtoniſhing: they are cut through the mountains, and are carried acroſs the vallies, by means of lofty arches and pillars. In the neighbourhood of Kingtung, the bridge of chains, hung over a frightful valley, connects two high mountains. This romantic and airy paſſage is, as it's name imports, formed of chains. The chains are of iron, twenty-one in number, ſtretched acroſs from the oppoſite hills and connected together, ſo as to form a paſſable road. Some of their mountains are formed, with great labour and addreſs, into various ſhapes, ſo as to reſemble horſes, birds, &c. and on their ſummits there are temples, monaſteries, and other remarkable ſtructures.

With this diligent people, every day in the year is devoted to labour, except the firſt, which is employed in paying and receiving viſits among relations; and the laſt, which is ſacred to the memory of their anceſtors, of whom they keep little images and tablets, with their names inſcribed on them, and before theſe they burn incenſe; yet, notwithſtanding this idolatry, the Chineſe conſider the practice of the

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ſocial virtues, and whatever unites and civilizes mankind as religion. They are happier in the thoughts of having civilized their conquerors, and the wandering and cantoned tribes who have attached themſelves to them, than they could have been in that of having deſtroyed their invaders.

The generoſity of two of their emperors is much celebrated, who, preferring the intereſts of the ſtate to thoſe of their family, kept their own children from the throne, to make room for men taken from the plough. In imitation of theſe royal huſbandmen, the emperor annually deſcends from the pomp of the throne, among ſurrounding multitudes, and, in honour of agriculture, breaks up the ground with a plough, the empreſs preparing with her own hands a rural repaſt. In a little time he repairs again to the field to ſow the ſeed. This is a time of great joy throughout the land. The example of the prince is followed in all the provinces; the viceroys, at theſe ſeaſons, exhibiting the ſame ſpectacle to the people. The law, which obliges the prince to ſhew this token of reſpect to the profeſſion of huſbandmen, has a tendency to promote the advantage of agriculture. The deference paid by the ſovereign to public opinions, contributes to perpetuate them; and the influence of opinion, is the principal ſpring that actuates the political machine.

This influence is preſerved in China by conferring honours on all huſbandmen, who excel in the cultivation of the ground. When any uſeful diſcovery is made, the author of it called to court, to communicate it to the prince; and is ſent by the government into the provinces, to inſtruct them in his method.

In moſt of the ſtates of Europe, one claſs of men aſſume, from their infancy, a pre-eminence independent of their moral character. The attention paid them from the earlieſt age, gives them the idea that they are formed to command. That ſtrikingly obſervable apathy, that marked inſenſibility, and vacancy of countenance, which, ſometimes, military officers have the ingenuity and addreſs to put on, when liſtening to private ſoldiers, and inferior officers, is ſometimes to be obſerved in theſe. They ſeem to conſider themſelves as a diſtinct ſpecies, and the multitude looks up to them with a reverence, and adopts a language and a conduct which keep up the illuſion.

In China, nobility does not deſcend by hereditary right; it is a mere perſonal reward beſtowed on merit. The figure any citizen makes, begins and ends with himſelf; and perſons raiſed to the higheſt employment in the empire, are often choſen out of families, who are ſolely employed in the cultivation of land.

Theſe encouragements, which belong to their manners, are further ſeconded by the beſt political inſtitutions. Whatever is in it's nature incapable of being divided, as the ſea, rivers, canals, &c. is enjoyed in common, and is the property of no individual. Every one has the liberty of going upon the water, fiſhing and hunting. In conſequence of this equality, the Chineſe are enabled to eſtabliſh an uniform ſyſtem of education, and to inculcate correſpondent principles. It is no difficult taſk to perſuade men, who are upon an equal footing by birth, that they

they are all brethren, an opinion, which gives them advantages which they could not experience, if a contrary idea prevailed.

Inſtead of thoſe frivolous diſtinctions, which are allotted to birth in other countries, the Chineſe ſubſtitute real ones, founded entirely on perſonal merit. A ſet of wiſe and intelligent men, who are honoured with the title of the learned mandarins, devote themſelves to the ſtudy of all ſciences neceſſary to qualify them for the adminiſtration of public affairs. None can be admitted into this ſociety, who are not recommended by their talents; for riches give no claim to this honour. The mandarins are at their option to fix upon proper perſons to aſſociate with them; and they never chuſe any perſon without a previous and ſtrict examination.

The empire of China is ſaid to have laſted through a ſucceſſive ſeries of four thouſand years. Fohi, the founder of it, is ſuppoſed to have been Noah; and the people, to this day, conſider their emperor as their common father, and pay the greateſt ſubmiſſion to him. There are different claſſes of mandarins, and, out of theſe, the emperor elects miniſters, magiſtrates, governors of provinces, and officers of every denomination, who are called to any employment in the ſtate. No dignity is hereditary except that of the crown; and that does not always devolve to the eldeſt ſon; but to him whom the emperor and the council of mandarins judge moſt worthy; even to a perſon of a different family. In China there is no ſet of men to form or manage a faction: as the mandarins have no rich and powerful family connections; and they are trained up in a way of thinking, that inſpires humanity, the love of order, beneficence, and reſpect for the laws.

Superſtition, which has made ſuch dreadful havock in the other parts of the earth, ſeems to have cauſed leſs diſorder in ſociety here, than in Europe, becauſe it is not premitted to mingle with the civil inſtitutes. Their public worſhip ſeems to be induſtry, or the love of labour; and that labour, which is held in the greateſt veneration, is agriculture. The emperor is a ſort of pontiff, and fulfils his office in becoming plowman. It is true, he ſometimes dictates on the ſubject of religion; but this ſeems rather an expreſſion of his opinion, than a requiſition of obſervance from the people. Thus, the Chineſe expreſſing the term Heaven, as the name of the Supreme Being, a mode adopted alſo by many Chriſtians, the emperor, Changchi, in an edict publiſhed in 1710, ſays, it is not to the viſible and material heaven, that we offer our ſacrifices, but to the Lord of heaven. Superſtition does not appear, at firſt view, to have made ſuch havoc among this peaceable race, as it has done in our quarter of the world, where the people are more barbarous and fierce: they have not there had the cruelty or abſurdity to prepare the rack, the gibbet, or the blazing pile, for the chaſtiſement and correction of unbelief; yet there are evils in China, moſt atrocious evils, which perhaps may be really traced back to this malady of the human mind. The convents of the Bonzes contain little leſs than a million of perſons devoted to celibacy. May it not be owing to this circumſtance, that polygamy, ſo contrary to reaſon and the ſpirit of ſociety, is univerſally practiſed? and as it ſtrikes us, in the contemplation of the human race, as one of the ſtrongeſt marks of the

continued care of Providence, or as one of the moſt incomprehenſible of the eſtabliſhed laws in creation, that the ſexes are kept up nearly equal, in all places and in every age, when the order of things is not diſturbed through the prejudices or paſſions of mankind; may it not happen, through the eſtabliſhment of polygamy, that female children are more numerous than the males? Parents in China, who cannot ſupport their female children, expoſe them on the roads, and are allowed to caſt them into the rivers, on which occaſions, they faſten a gourd to the child, that it may float on the water; and there are often compaſſionate people, who are moved by the cries of the children to ſave them from death. Again, if celibacy be reſpected in adults, may it not ariſe from a ſuperſtitious attachment, in parents, to this violation of nature, that ſeveral of the children ſuffer the moſt ſhameful mutilations. How afflictive is the conſideration, that we can hardly caſt our eyes on any part of the earth, but the proſpect is deformed by ſuperſtition! The evils, flowing immediately or remotely from this infirmity of the human mind, are incalculable, and have a permanency, which often mocks the moſt zealous attempts of the moſt enlightened reformiſt, becauſe we none of us ſincerely believe that we are ſuperſtitious.

The Chineſe, on their firſt acquaintance with the Europeans, expreſſed the greateſt aſtoniſhment, on finding them acquainted with arts and ſciences, and on their being informed that there were cities and houſes in Europe. How is it poſſible, exclaimed they, that a people ſo remote from us, ſhould have any knowledge or capacity? They have never read our books; they were never modelled by our laws; and yet they ſpeak, write, and reaſon as we do. Had the Chineſe but read our books, the accounts of the revolutions with which Europe has been almoſt unceaſingly diſtracted; had they ſtudied the vexatious laws with which ſociety is continually diſturbed; had they been informed of the vengeance which is exerciſed by man upon his fellow, with the authority of law; how delinquents are ſtrangled even for trifling offences; how the inſtruments of death, and even the dead bodies of the criminals are expoſed to public view, how would they have ſhuddered, what ſelf gratulation would they have felt, that it was not their lot to live among ſo barbarous a people; that it was their happineſs to inherit the religion, the maxims, the gentle ſpirit of Confucius.

The Chineſe have a greater number of precepts, relating to the moſt common actions, than any other people in the world. Their code of politeneſs is very voluminous, the pooreſt citizen is inſtructed, and obſerves it with the ſame exactneſs as the mandarins and the court. The laws in this code, like all the reſt, are formed with a view of keeping up the opinion that China is but one great family, and of promoting that regard and mutual affection in the citizens, which is due to each other as brethren. Their priſoners are confined in neat and commodious apartments, where they are well taken care of till the moment when they ſuffer: the penalties inflicted for crimes are moderate, and virtue is diſtinguiſhed by marks of honour.

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The ſpirit of patriotiſm is ſtronger, perhaps, and more active among the Chineſe, than with any other nation. It is common to ſee them voluntarily contributing their labour to repair the public roads; the rich build places of ſhelter upon them, for the uſe of travellers; and others plant trees there.

There is a vaſt number of large public libraries in China; and in every city there are colleges and obſervatories. The Romiſh miſſionaries have aſſiſted them in regulating their calendar, and, from them, much of their mathematical knowledge is derived. But the ſpirit of enquiry or invention is very much damped by their exceſſive veneration for antiquity, which makes them the ſlaves of whatever is eſtabliſhed, and gives them an inſipidity or apathy, very different from the active and reſtleſs ſpirits of the Europeans.

The moſt deformed part of this picture of the Chineſe, applies to the inhabitants, as they appear in the ſeaports and great towns; there they are knaviſh, cowardly, and avaricious; but in the other parts of the empire, particularly in the country, their manners are more domeſtic, ſocial and patriotic; it would be difficult to point out a more virtuous humane, and intelligent people.

Marriage generally takes place, in China, without the parties ſeeing each other, and frequently when they are yet children, the contract or treaty being formed by the parents. Though honours or compliments are ſtrictly paid, among this ceremonious people, to the women, to each according to her rank, they are ſeldom entruſted with property, from the fear that mercenary men might ſeek them for wives on the ſordid motives of intereſt and avarice.

With the women of China, a ſmall foot is accounted a great beauty, and no pains are ſpared to produce this deformity. Their feet are confined or ſwathed from their infancy, ſo that when they grow up, they walk with a more tottering gait than the women of our country, when enduring the muſcular diſtortion produced by high-heeled ſhoes; and, under the name of accompliſhment or education, they are alſo more artificialized in their deportment and diſpoſitions. They are inſtructed in muſic, the modes of behaviour, and the ceremonial punctilios of the country. A failure in the leaſt circumſtance of the laſt, as in the number of bows, to thoſe called ſuperiors, or in the manner of making them, would infallibly ſtamp the character of ignorance on the perſon ſo failing. They are taught alſo a baſhfulneſs and modeſty of behaviour not to be met with in any other country. The men wrap themſelves cloſely up in their garments, and reckon it indecent to diſcover any more of their arms and legs than is neceſſary; and the women, ſtill more cloſely wrapped up, never diſcover a naked hand, even to their neareſt relations, if they can poſſibly avoid it. Every part of their dreſs, every part of their behaviour, every look and every action correſponds with this reſerve; and the men, delighted with ſo engaging a demeanour, behave to them in a reciprocal manner.

133. *India, beyond the Ganges.*] The countries ſouth of China, forming what is called, the Farther Peninſula of India, are Cochin-China, Tonquin, Siam, Malacca, Pegu, &c. of theſe we may juſt make a haſty ſurvey, and then paſs on to the celebrated regions of Hindooſtan.

Laos, Cambodia, and Chiampa, as well as ſome other ſmaller kingdoms, are ſaid to be tributary to Cochin China. It appears that a prince of Tonquin, with his adherents, who had fled from the ſovereign of that country, croſſed, a few centuries ago, the river which ſerves as a barrier between Tonquin and Cochin China. The ſcattered inhabitants, whom they found wandering about here, without any ſociety or form of government, or any laws, but that mutual intereſt which prompted them not to injure one another, ſoon retired, and the coloniſts availed themſelves of the advantages which this fertile country, and the well ſupplied rivers and ſea afforded them. Their chief cultivated with them the land in which they had all taken refuge; he never received of them any thing, except an annual and voluntary contribution, for the defence of the nation, againſt the tyrant of Tonquin, who, for a long time purſued them beyond the river which ſeparated them from him; and the women, continually engaged in the duties of domeſtic life, imbibed and infuſed into their partners, a mild and humane diſpoſition.

They have neither robbers nor beggars. Every one is at liberty to live at his own houſe, or at his neighbour's. A traveller freely enters a houſe, in any village, ſits down to table, eats and drinks without being invited or aſked any queſtions, and then goes away without acknowledging the civility. He is a man, and therefore a friend and relation of the family: if he were a foreigner, he would excite more curioſity, but would be equally welcome.

The primitive contract between the chief and his adherents, has of late been infringed on. The reciprocal and ſolemn engagement, between the king and people, is ſtill renewed every year, as in the face of heaven and earth, in a general aſſembly of the whole nation, holden in an open field, where the oldeſt man preſides, and the king only aſſiſts as a private perſon. He ſtill honours and protects agriculture, but does not, like his predeceſſors, ſet the example of labour to his ſubjects. When he ſpeaks of them, he ſtill ſays, they are my children: but they are no longer ſo. His courtiers have ſtiled themſelves his ſlaves, and have given him the pompous and ſacrilegious title of king of heaven. He has deſpiſed the homely roof of his anceſtors, and built a palace. It's circumference has been marked out, and is a league in extent, and thouſands of cannon planted round it's walls, make it formidable to the people. The diſcovery of gold has brought on that of taxation. Contributions are no longer voluntary, but ſupplies are extorted. Deſigning men go to the king's palace, and craftily obtain the privilege of plundering the provinces. With gold they at once purchaſe a right of committing crimes, and the privilege of impunity: they bribe the courtiers, elude the vigilance of the magiſtrates, and oppreſs the huſbandmen. The traveller already ſees, as he paſſes along, fallow grounds, and whole villages forſaken by it's inhabitants, and without a reformation, it's roads ſeem likely to be deſerted by navigators: the greateſt part of the trade of this country and it's dependencies is at preſent carried on by the Chineſe.

Tonquin is one of the fineſt and moſt conſiderable kingdoms of the eaſt, as well on account of the number of inhabitants, as of the riches

it contains, and the trade of it carries on. The people are idolatrous; but the precepts and writings of Confucius, are held in greater veneration here, than even in China. But the people do not ſhew that reſpect for parents, that love for the prince, thoſe reciprocal affections, nor thoſe ſocial virtues, which are met with in China, nor have they the ſame good order, police, induſtry, or activity. In hard times, the men will ſell their wives and children, to buy rice for themſelves; they will even ſtake them, when every thing elſe is gone, at gaming, which they are very much addicted to. Notwithſtanding the richneſs of their raw materials, and their ingenuity in manufacturing them, they devote themſelves to exceſſive indolence. In Tonquin, there is a continual ſtruggle between the eunuchs, thoſe myrmidons of the monarch, who govern, and the people, who impatiently bear the yoke; and in conſequence of theſe diſſentions, every thing languiſhes and tends to ruin.

The kingdom of Siam is one of the fineſt countries in the world. Though divided by a ridge of mountains, which is continued till it meets with the rocks of Tartary, it is ſo prodigiouſly fruitful, that many of it's cultivated lands yield two hundred fold; and in ſome parts crops are ſpontaneouſly produced. There is, perhaps, no country where fruits grow in ſuch plenty and variety, or are ſo wholeſome, as in this delightful ſpot. Some are peculiar to the country; and thoſe, which are equally the produce of other countries, have a much finer ſmell, and are much higher flavoured, than in any other part of the world. The earth, always covered with theſe treaſures, which are conſtantly ſpringing up afreſh, alſo conceals, under a very thin ſurface, mines of gold, copper, loadſtone, iron, lead, and calin, a ſpecies of tin, which is highly valued throughout Aſia.

All theſe advantages are rendered uſeleſs by the greateſt tyranny. A prince, corrupted by his power, and enfeebled by his voluptuouſneſs, immured in his ſeraglio, oppreſſes his people by his caprices, or ſuffers them to be oppreſſed by his indolence. At Siam, all the people are ſlaves: they are regiſtered at the age of ſixteen; and every one, on the firſt ſummons, muſt repair to the poſt aſſigned him, upon pain of being put in irons, or condemned to the baſtinado. No Siameſe is advanced to any eminent poſt, but he is allowed a certain number of men, who are at his diſpoſal; ſo that the ſalaries granted to great officers are well paid at the court of Siam, becauſe they are not paid in money, but in men, who coſt the prince nothing.

In a country where all the men muſt work for the government during ſix months in the year, without being paid or ſubſiſted, and the other ſix, to earn a maintenance for the whole year; in ſuch a country, the very lands muſt feel the effects of tyranny, and conſequently there is no property. The delicious fruits, that enrich the gardens of the monarch and the nobles, are not ſuffered to ripen in thoſe of private men. If the ſoldier, who is ſent out to examine the orchards, diſcover ſome tree laden with choice fruits, they never fail to mark it for the tyrant's table, or that of his miniſters. The owner becomes the guardian of it, and is anſwerable for the fruit under very ſevere penalties.

The men are not only ſlaves to men, but to the very beaſts. The king of Siam keeps a great number of elephants. Thoſe of his palace are taken care of, and have extraordinary honours paid them: the meaneſt have fifteen ſlaves to attend them, who are conſtantly employed in cutting hay, and gathering bananas and ſugar canes for them. The king takes ſo much pride in theſe creatures, which are of no real uſe, that he eſtimates his power rather by their numbers, than by that of provinces. Under pretence of feeding theſe animals well, their attendants will drive them into gardens and cultivated lands, that they may trample upon them, unleſs the owners will purchaſe an exemption from theſe hardſhips by continual preſents. No man muſt dare to incloſe his field againſt the king's elephants, many of whom are decorated with honourable titles, and advanced to the higheſt dignities in the ſtate.

Such various exertions of tyranny make the Siameſe deſert their native country, though they look upon it as the beſt upon earth. Moſt of them fly from apprehenſion into the foreſts, where they lead a ſavage life, infinitely preferable to that of ſociety corrupted by deſpotiſm. So great is this deſertion, that from the part of Mengui to Juthia, the capital of the empire, one may travel for a week together, without meeting with the leaſt ſign of population, through an immenſe extent of country, well watered, the ſoil of which is excellent, and ſtill bears the marks of former culture. This fine country is now over-run with tigers.

The trade here was formerly immenſe. In the beginning of the ſixteenth century, a great number of ſhips came into their roads every year, but the tyranny, which prevailed ſoon after, ſucceſſively deſtroyed the mines, the manufactures, and agriculture. All the foreign merchants, and even thoſe of the nation, were involved in the ſame ruin; and the ſtate fell into confuſion, under the dominion of a deſpotic tyrant.

Miſſionaries from the Church of Rome, had preached their doctrines here, and had gained the love of the people by their conduct. Plain, good-natured, and humane men, without intrigue or avarice, they gave no jealouſy to the government nor the people; but the later prieſts, of the order of the Jeſuits, abuſed the favour they enjoyed at court, and drew upon themſelves the hatred of the people. This odium was transferred from them to their religion. They built church-houſes before there were any Chriſtians to frequent them. They founded monaſteries, and by theſe proceedings gave offence to the people, and to the Talapoins, or Siameſe monks. Some of the Talapoins lead a ſolitary life, and others are buſy intriguing men. They preach to the people the doctrines and precepts of Sommona Kodom. That lawgiver of the Siameſe was long honoured as a ſage, and has ſince been revered as a god, or as an emanation of the Deity, a ſon of God. A variety of marvellous ſtories are told of this man; as, that he lived upon one grain of rice a-day; that he pulled out one of his eyes to give to a poor man, having nothing elſe to beſtow on him; that at another time he gave away his wife; that he commanded the ſtars, the rivers and the mountains; but that he had a brother, who frequently oppoſ-

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ed his deſigns, for the good of mankind; and that God avenged him and crucified that brother. This fable prejudiced the Siameſe againſt the doctrines of the Chriſtians, who repreſented their Saviour as enduring that death which had been inflicted on the malicious brother of Sommona Kodom.

Malacca is the ſouthern part of the Farther Peninſula of India. From it's being nearly ſurrounded by the ſea, it's climate is mild and healthy. The ſoil pours forth an abundance of delicious fruits, the trees wear an everlaſting verdure, and the flowers bloom in a perpetual ſucceſſion: the moſt delicate and fragrant odours, breathed from aromatic plants, perfume the air, and the fervour of the torrid zone is allayed by refreſhing gales and cooling ſtreams.

Such is the deſcription of the delightful regions inhabited by the Malays; but ſo baneful has been the influence of a tyrannical government, that the inhabitants of this delightful country have become remarkable for the ferocity of their manners. The feudal ſyſtem, which was firſt planned among the rocks and woods of the north, has extended itſelf here, and the deſpotiſm of a ſultan, ſeems to extend it's oppreſſive influence to multitudes, by being divided among a number of powerful vaſſals. This enſlaved nation is under the dominion of an arbitrary prince, or rather of twenty tyrants, his repreſentatives. The maſters let out their ſervices, or rather thoſe of their dependents, for hire, to the beſt bidder, regardleſs of the loſs that agriculture would ſuſtain for want of hands. They preferred a wandering and adventurous life, either by ſea or land, to induſtry. They committed depredations they conquered, or colonized, many of the iſlands of the Pacific, and carried with them their laws, manners, and cuſtoms; and, what is ſomething remarkable, and ſeems to ſhow that they have once been a more gentle race, they carried with them the ſofteſt language in all Aſia. The Malayan tongue is eſteemed the fineſt and pureſt in all the Indies. It is ſpoken there as commonly as the French is in Europe: and dialects of it are to be heard in the moſt remote iſlands of the eaſt.

The wars with which the earth has been heretofore diſtracted, have very commonly been no other than conteſts of the people for change of their maſters, and of different nations for extenſions of territories: thoſe which have recently, and which, at preſent, deſolate our quarter of the globe, ſeem of a different kind. We have ſeen, in our day, aſtoniſhing revolutions in the manners of a whole nation, and can more readily comprehend how ſimilar changes may have taken place in countries more remote from us, and in ages that are paſt.

From the ſoftneſs of the Malayan tongue, it ſeems moſt probable that they once poſſeſſed a humane and gentle character. An oppreſſive ſyſtem of government gave riſe to an univerſal turbulence of manners. When the Europeans firſt arrived in the Indies, the paſſion of the Malays for plunder had, at length, given way to advantages of a more certain nature than the precarious and doubtful ſucceſs of piratical expeditions. The harbour of Malacca was conſtantly crowded with veſſels either from Japan, China, the Philippine and Molucca iſlands, and the adjacent part of the eaſtern coaſt; or from Bengal, Coromandel, Malabar, Perſia, Arabia, and Africa. The Portu-

gueſe, deſirous of having a ſhare in the general commerce of Aſia, at firſt appeared at Malacca in the character of merchants; but their uſurpations in India rendered their deſigns much ſuſpected, and the Arabians circulated reports ſo much to their diſadvantage, that meaſures were taken to deſtroy them. Several of them were killed, ſome were thrown into priſon, and others eſcaping to their ſhips, retreated to the Malabar coaſt. They ſoon returned with force, attacked, and carried, after ſeveral bloody and obſtinate engagements, the city of Malacca. Here they found immenſe treaſures, vaſt magazines, and whatever could contribute to the elegancies and pleaſures of life. The inhabitants, who profeſſed Mahometaniſm, and were unwilling to ſubmit to their new maſters, either retired into the inland parts, or diſperſed themſelves along the coaſt. Having loſt the ſpirit of commerce, they relapſed into all the exceſſes of their former violent character. Theſe people never go without a poniard, which they call *crid*; and nothing is more to be dreaded than ſuch men armed with ſuch an inſtrument. When they get on board a veſſel, they ſtab the crew at the time when no harm is ſuſpected. Since their treachery has been known, all Europeans take care never to employ a Malayan ſailor; but theſe barbarians, animated by an unaccountable reſolution to kill or be killed, come in boats, with thirty men, to board veſſels, and ſometimes ſucceed in carrying them off: if they be repulſed, they have the cruel ſatisfaction, at leaſt, of having imbrued their hands in blood. This debaſement of the Malayans begun by the Portugueſe, has been continued by the tyranny of the Dutch, who have a factory at Malacca, which they took from the Portugueſe.

The kingdoms of Pegu, Ava, Aracan, and Lagos lie north of Siam, and all produce, as well as it, the varniſh-tree; in them are alſo found the fineſt rubies, and ſome gold-duſt, with the other riches of the eaſt.

The government of Pegu is arbitrary, but the king has not often abuſed his power. In other reſpects this country and Siam very much reſemble each other. In the low parts the houſes are built upon poſts, and, at the time of inundations, communicate with each other by means of boats. The women are the principal merchants, and the Talapoins, or prieſts, are ſtrict obſervers of morality; they cultivate the ground for their ſubſiſtence, inculcate charity as the higheſt virtue, and affirm that religion to be the beſt which teaches men to do the moſt good both to man and beaſt.

134. *Hither India, Mogul's Empire, or Hindooſtan.*] Though by the general name of the Eaſt Indies is commonly underſtood that immenſe tract of land, which lies beyond the Arabian Sea and the Perſian empire; yet by Hindooſtan is properly meant the country lying between the two celebrated rivers, the Indus and the Ganges, or rather between Perſia and the river Burrampooter, and terminating on the ſouth at Cape Comorin. A ridge of high mountains, from north to ſouth, divides this long tract, and ſeems like a barrier to ſeparate one ſeaſon from another. The mere breadth of theſe mountains divides ſummer from winter; that is to ſay, the ſeaſon of fine weather from the rainy; for it is well known there is no winter between the tropics.

All

All that is meant by winter in India, is that time of the year when the clouds, which the ſun exhales from the ſea, are driven violently by the winds againſt the mountains, where they break and diſſolve in rain, accompanied with frequent ſtorms. Hence torrents are formed, which ruſh from the hills, ſwell the rivers, and overflow the vallies, while dark vapours obſcure the day, and ſpread a thick and impenetrable gloom over the deluged country.

The ſummer may naturally be expected to preſerve it's uſual temperature, better than in winter, in a climate ſo immediately under the influence of the ſun: the ſky, without a cloud to intercept it's rays, ſeems to be all on fire; but the ſea breezes, which ſpring up in the day time, and the land breezes, that blow during the night, alternately alleviate the heat of the atmoſphere; yet the calms, that now and then intervene, ſtifle theſe refreſhing gales, and the inhabitants are reduced to ſuffer the inconveniences of exceſſive drought.

The effect of the two different ſeaſons is ſtill more remarkably felt in the two Indian Oceans, where they are diſtinguiſhed by the name of the dry and rainy monſoons. While the ſea, that waſhes the coaſt of the Malabar, is agitated by ſtorms, which the returning ſun introduces with the ſpring, the ſlighteſt veſſels ſail ſecurely along the coaſt of Coromandel upon a ſmooth ſurface, and require neither ſkill nor precaution in their pilots; but in the autumn, which, in it's turn, changes the face of the elements, the weſtern coaſt enjoys a perfect calm, while the eaſtern Indian Ocean is toſſed by tempeſts, each experiencing, as it were, the alternatives of peace and war.

The celebrated countries of India have long engaged the attention of the philoſopher and the hiſtorian, whoſe conjectures have aſſigned, to their earlieſt inhabitants, an æra of the greateſt antiquity. They trace the origin of moſt of the ſciences in the hiſtory of that country. Even before the age of Pythagoras, the Greeks travelled to India for inſtruction; the trade carried on by them with the oldeſt commercial nations, in exchange with their cloth, ſhews their great and early progreſs in their arts of induſtry.

In India are found the traces of a multitude of ſuperſtitious obſervances, arts, ſports, errors, and truths, which have been adopted by almoſt all nations. Amidſt a variety of abſurd ſuperſtitions, puerile and extravagant cuſtoms, ſtrange ceremonies and prejudices, there may be ſometimes diſcovered remains of ſublime morality, deep philoſophy, and refined policy; but when we attempt to trace the religious and civil inſtitutions to their origin, we are loſt in the mazes of antiquity; the Indians themſelves are ignorant of it. They have to this day preſerved cuſtoms of which they know not the original deſign: the ſpirit of their political conſtitution is loſt, and every branch of it either changed or corrupted: their religion, which was of the allegorical and moral kind, has degenerated into extravagant ſuperſtition, owing to their having realized thoſe fictions which were intended merely as ſo many ſymbols, or emblems

From the Indus to the Ganges the Vedam is univerſally received as the book that contains the principles of religion; and, throughout all Hindooſtan, the laws of government, cuſtoms, and manners make a part

part of religion; being all derived from Brama, whom they account a being far ſuperior in dignity to the human race, the interpreter of the divinity, the author of their ſacred books, and the great lawgiver of India.

There is ſome reaſon to believe that Brama was poſſeſſed of the ſovereign authority; as his religious inſtitutions were evidently deſigned to inſpire the people with a profound reverence and great love for their country. It is from him they derive their religious veneration for the three capital rivers of Hindooſtan, the Indus, the Chriſtina, and the Ganges. It was he who conſecrated the animal that is moſt ſerviceable in the cultivation of the land, as well as the cow, whoſe milk is ſo wholeſome a nouriſhment in hot countries. To him they aſcribe the diviſion of the people into tribes, or caſtes.

The Shaſtah is looked upon by ſome as a commentary on the Vedam, and by others as an original work. This book teaches, that the Eternal Being, abſorbed in the contemplation of his own eſſence, formed the reſolution of creating beings who might partake of his glory. He ſpoke, and angels roſe into exiſtence; they ſang in concert the praiſes of their Creator, and harmony reigned in the celeſtial regions, when two of theſe ſpirits, having revolted, drew a legion after them. The Supreme Being drove them into a place of torment, from which they were releaſed at the interceſſion of the faithful angels, upon conditions which at once inſpired them with joy and terror. The rebels were ſentenced, under different forms, to undergo puniſhments in the loweſt of the fifteen planets, in proportion to the enormity of their firſt offence; accordingly each angel underwent eighty-ſeven tranſmigrations upon earth, before he animated the body of a cow, which holds the higheſt rank among the animal tribes. Theſe different tranſmigrations are conſidered as ſo many ſtages of expiation, preparatory to a ſtate of probation, which commences as ſoon as the angel tranſmigrates from the body of the cow into a human body: in this ſituation the Creator enlarges his intellectual faculties, and conſtitutes him a free agent; and his good or bad conduct haſtens or retards the time of his pardon. The good are, at their death, re-united to the Supreme Being, and the wicked begin anew the period of their expiation. Hence it appears, from this tradition of the Shaſtah, that they conſider the metempſychoſis as an actual puniſhment, and the ſouls which animate the generality of the brute creation as nothing more than wicked ſpirits.

The Indians ſeldom admit ſtrangers to their worſhip, and always with the greateſt reluctance. This was, in ſome meaſure, the ſpirit of the ancient ſuperſtition, as it appears among the Egyptians, the Jews, the Greeks, and the Romans: and though it has made fewer ravages than the zeal for making converts, it prevents the intercourſes of ſociety, and raiſes an additional barrier between one people and another.

The Gentoos, or Hindoos, are of a mild, humane diſpoſition, and are almoſt ſtrangers to the paſſions that prevail among us. What motive of ambition can there be among men who are deſtined to continue always in the ſame ſtate? They love peaceable employments, and an indolent life, and often quote this paſſage of one of their favourite authors:

thors: 'It is better to ſit ſtill than to walk; better to ſleep than awake: but death is beſt of all.' Notwithſtanding the numbers of ſavage banditti, and other ſtrangers, whom the deſire of gain has invited to India, they have not adopted the manners, the laws, or the religion of their maſters.

The nation is divided into four claſſes, the Bramins, the ſoldiery, huſbandmen, and mechanics; and theſe claſſes have their ſubdiviſions. There are ſeveral orders of Bramins; thoſe who mix in ſociety are, for the moſt part, very corrupt in their morals; they believe that the water of the Ganges will waſh away all their crimes; and, as they are not ſubject to any civil juriſdiction, live, it is ſaid, without reſtraint or virtue, excepting that character of compaſſion and charity which is ſo commonly found in the climate of India. The others, who live abſtracted from the world, abandon themſelves to lazineſs, ſuperſtition, and the dreams of metaphyſics, with all the ſubtilties of which they are well acquainted. The Greek philoſophers are ſuppoſed to have derived this artificial and abſtract ſort of ſcience from India, and, from their writings, the moderns have adopted ſimilar ſubtilties.

Such are the deſcendants of the ancient Brachmans, ſo celebrated in antiquity. The Greeks aſcribe to them the doctrine of the immortality of the ſoul, and certain notions concerning the nature of the Supreme Being, and future rewards and puniſhments. To theſe doctrines the Brachmans added a number of religious obſervances, which were adopted in the Pythagorean ſchool; ſuch as faſting, prayer, ſilence, and contemplation.

The military claſs conſiſts of the Rajas on the coaſt of Coromandel, and the Nairs on the coaſt of Malabar. There are likewiſe whole nations, the Canarins and the Marattas for inſtance, who aſſume the trade of ſlaughter, either becauſe they are of ſome tribes, originally ſoldiers; or becauſe times and circumſtances have introduced a change in their primitive inſtitutions. The name of Rajapouts ſignifies deſcendants of the Rajas: the Engliſh Eaſt-India Company employs ſeveral battalions of them, and call them Sepoys; the ſailors are called Laſcars.

The third claſs of Gentoos conſiſts entirely of huſbandmen, and there are few countries where this ſet of men have a better title to the gratitude of their fellow citizens; they are diligent and laborious, and perfectly acquainted with the art of diſtributing their rivulets, and of making the burning ſoil they inhabit as fertile as poſſible. This claſs, which was formerly much reſpected, was free from tyranny and the ravages of war; never were the huſbandmen obliged to bear arms; their lands and their labours were held equally ſacred; they ploughed their fields within view of contending armies, who ſuffered them to purſue their peaceful toil without moleſtation; their corn was never ſet on fire, nor their trees cut down; the moſt furious armies would have accounted it impious to commit ſuch enormities.

The tribe of mechanics is branched out into as many ſubdiviſions as there are trades; no one being allowed to relinquiſh the profeſſion of his parents; for which reaſon induſtry and vaſſalage have ever gone hand in hand, and carried the arts to as high perfection as they can attain,

tain, without taſte or imagination, which are ſeldom unfolded in ſo inſipid and unvaried a tenor of life.

Beſides theſe tribes, there is a fifth, which is the outcaſt of all the reſt; the members of it are employed in what are called the loweſt offices of ſociety. They bury the dead, carry away dirt, and live upon the fleſh of animals that die natural deaths: they are held in ſuch abhorrence, that if any of them dare to touch any perſon belonging to the other claſſes, he has a right to kill him on the ſpot. They are called Parias, Hallachores, or Harri, and are held in utter deteſtation by all the other tribes, who, if excommunicated, fall into this caſt, and they and their poſterity are for ever ſhut out from the ſociety of the reſt of the nation. Thus we ſee, that whatever there is deformed in the picture of civil ſociety in Europe, is here marked with the moſt forcible colouring. If we caſt our eyes over our public walks, or even along our ſtreets, where buſineſs frequently obliges people, in different ſituations of life, to mingle together, we ſhall find that aſſociations are generally regulated by the texture of the drapery in the cloaths of the company, rather than by congeniality of mind. In forming the cloſeſt connections in life, the people moſtly fit themſelves with partners by the conſideration of their poſſeſſions; the poor are married to the poor, the rich to the rich; and ſo corrupted are we by our education, that is, by the example of general manners, that the expreſſion of well or ill married generally gives us the idea of the poſſeſſions, the family, the accompaniments of the perſon, rather than of the partner's own ſelf. It is curious to obſerve the different manners of theſe people, according to their different habits and ſituations: the modeſt, unaſſuming, and even embarraſſed deportment of the poor towards the rich; the loftineſs of the latter in certain ſituations, for the poor have their walk as well as the rich, and each claſs verifies, in it's conduct, the truth of the old obſervation, 'Every cock crows on it's own dunghill.' If the poor feel embarraſſed in the apartments, on the carpets of the rich, the latter are aſhamed to ſpeak otherwiſe than ſoftly in the ſtreets, where the poor make noiſe enough. In our country, the diſtinction of rank is carried into the place of worſhip. The caſts of the Gentoos are ſeparated from each other by inſurmountable barriers; they are not allowed to intermarry, live, or eat together; whoever tranſgreſſes this rule, is baniſhed as a diſgrace to his tribe. But it is quite otherwiſe, when they go in pilgrimage to the temple of Jangrenat, or the Supreme Being. At theſe ſeaſons the Bramins, the Raja, or Nair, the huſbandman and mechanic carry their offerings, and eat and drink promiſcuouſly; they are there admoniſhed, that the diſtinctions of birth are of human inſtitution, and that all men are brethren, and children of the ſame God. Alas! what avail theſe ſpecious profeſſions! of what uſe are theſe evangelical doctrines any where, while every where we ſee and feel, and, in the expreſſive language of conduct, declare, that in our hearts we diſbelieve them!

In the pagodas of the Gentoos there are ciſterns of water for the purification of the people, who obſerve theſe ſuperſtitious ceremonies: they admit no light but at the entrance, which always fronts the Eaſt; this defect is ſupplied by tapers, and the idol is placed in the centre of the

the building, ſo that the Parias, who are not admitted into the temple, may have a ſight of it through the gates. This prohibition ſeems like the laſt and groſſeſt ſubverſion of ſocial laws that could enter the heart of man; but the Paria may conſole himſelf from the writings of ſome of their own poets—'He cauſeth his ſun to ſhine on the tent of the outcaſt.' In Malabar there is a race of men who have not even this conſolation. The Poulichees inhabit the foreſts, and are not permitted to build huts, but are obliged to make a kind of neſt upon the trees; when they are preſſed by hunger, they howl like wild beaſts, to excite the compaſſion of paſſengers. The moſt charitable among the Indians depoſit rice, or other food, at the foot of a tree, and retire, with all poſſible haſte, to give the injured wretch an opportunity of taking it without meeting with his benefactor, who would think himſelf polluted by coming near him; a ſqueamiſhneſs which the moſt pampered of the people in our country have not arrived at towards the poulichees, or beggars, along our own highways and hedges.

Though the Bramins in India, like the tribe of Levi among the Hebrews, have the excluſive privilege of exerciſing the prieſthood, there are men in India, who ſhare with them the veneration of the people. They are called Faquirs, and ſurpaſs the Bramins in auſterities. Men of all the tribes, or caſts, are permitted to follow this manner of life; and their mortifications exceed all that is practiſed by the monks of Europe. Some of them wallow in the dirt, others accuſtom themſelves to painful poſtures; and, contrary to the other Gentoos, who with ſuperſtitious exactneſs obſerve waſhings or purifications, never cleanſe their bodies, nor comb their hair. There are Faquirs in other parts of Aſia, as well as in Hindooſtan, and alſo in Africa. They wear no cloaths, conſidering them only as proper appendages to ſinners; while they, profeſſing themſelves free from every ſtain of pollution, have no ſhame to cover. It has long been an opinion eſtabliſhed in India, that there is not in nature, ſo powerful a remedy againſt barrenneſs, as the prayers of theſe idle and pretended devotees; they get admittance to the apartments of weak and enthuſiaſtic women, leaving their ſlipper or ſtaff at the door, which is accounted ſo ſacred a ſymbol, that it effectually prevents any one from violating the ſecrecy of their actions.

Brama preſcribed different kinds of food for the reſpective tribes of Gentoos. The military, and ſome other ranks, were permitted to eat veniſon and mutton: fiſh was allowed to ſome huſbandmen and mechanics; others lived upon milk and vegetables. None of the Bramins ate any thing that had life. Upon the whole, theſe people are extremely ſober; but their abſtinence varies in proportion to the greater or leſs labour required in their profeſſions.

They are married in childhood, or eſpouſed; but live with their parents, till arrived at maturity. The wives are, in general, very faithful, and ſome have the privilege of having ſeveral wives. Thoſe of the Bramins, have been in the practiſe of burning themſelves on the ſame pile, with the dead bodies of their huſbands, and others have followed their example. Since the Moguls became maſters of Hindooſtan, theſe horrible ſpectacles have become much leſs frequent, as

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it coſts a ſum too conſiderable for any but the rich to obtain a licenſe for that purpoſe. But this obſtacle has ſometimes made their inclinations, to this frightful but honoured cataſtrophe, the ſtronger; and ſome women have been known to devote themſelves, for ſeveral years, to the loweſt and moſt laborious employments, in order to raiſe money to defray the expences of this romantic ſuicide, which they conſider as a releaſe from the priſon of the body, and from all farther tranſmigrations; and as the undoubted commencement of the moſt certain and perfect happineſs, joining them for ever to the happy ſpirits of their departed huſbands, in a ſtate of the moſt perfect purification.

If we may credit the moſt ancient tradition, the fertile plains of Hindooſtan, tempted the firſt conquerors or ravagers of the world. Bacchus, Hercules, Seſoſtris, and Darius are ſuppoſed to have carried their arms into that rich portion of the globe, already civilized, and very populous, while other parts of the earth were deſart and ſavage. The progreſs of Alexander in this country was rapid, but he was cut off by death in the midſt of his triumphs. About the beginning of the eighth century, the Arabs overran India, and ſince that time, they have fallen ſucceſſively under different tribes of Mahometans, Tartars, and Chriſtians.

Tamerlane, who came from Great Tartary, and was already famous for his cruelties and his victories, advanced to the north ſide of Hindooſtan, at the end of the fourteenth century, with an army inured to all the hardſhips of war. He ſecured the northern provinces to himſelf, and abandoned the plunder of the ſouthern ones to his lieutenants. By the union of all his conqueſts, he found himſelf maſter of all the immenſe ſpace that extends from the delicious coaſt of Smyrna, to the delightful borders of the Ganges. After his death, violent conteſts aroſe, and his poſterity were deprived of his rich ſpoils. Babar, the ſixth deſcendant of one of his children, a young prince, brought up in ſloth and luxury, reigned in Samarcand, where his anceſtor had ended his days. The Uſbeck Tartars dethroned him, and conſtrained him to take refuge in the Cabuliſtan, the governor of which received him kindly, and ſupplied him with troops. The fugitive monarch reduced Hindooſtan, already torn in pieces, by the inceſſant wars of the Indians and Patans, and laid the foundation of the Mogul empire.

The Mogul emperors long enjoyed the ſuperſtitious idea, the nation had conceived, of their character being ſacred. That outward pomp, which captivates the people more than juſtice, becauſe men are ſtruck with what dazzles their eyes, than with what is beneficial to them; the richneſs and ſplendor of the prince's court; the grandeur that ſurrounded him in his travels; all this kept up, in the minds of the people, thoſe prejudices of ſervile ignorance, which trembles before the idol it has raiſed. The various accounts that have been tranſmitted to us, of the luxury of the moſt brilliant courts in the world, are not to be compared to the oſtentatious pomp of the Great Mogul, when he appears in public. The elephants, thoſe immenſe animals, that are unknown in our climates, give an Aſiatic monarch

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an air of grandeur, of which we have no conception. The people fall proſtrate before their majeſtic ſovereign, who ſits exalted upon a throne of gold, glittering with precious ſtones, mounted on the haughty animal, which proceeds ſlowly, and ſeems like the flatterers of kings, proud in the office of preſenting their maſter to the reſpect of the cringing multitude of ſlaves. But the pride of this lofty idol of the Eaſt is now humbled in the duſt. After various ſtruggles, aſſaſſinations, and wars among the deſcendants of Tamerlane, the empire was invaded by Nadir Shaw, or Kouli Khan, the monarch of Perſia, who deſtroyed 200,000 of the Indians, in 1739, and carried off 231,000,000 ſterling. The city of Delhi, with a ſmall territory round it, is all that is left to the preſent emperor, who depends upon the protection of the Engliſh; and it is the intereſt of theſe to ſupport him, as they find his authority to be their beſt legal guarantee for their poſſeſſions in India.

The deſcendants of the Tartars, as well as of the Arabs, are Mahometans, and are called Moors; they are computed to be about ten millions; and the Indians about a hundred millions.

135. *Perſia.*] There ſeems to be ſome ſimilitude between the Bramins of India, and the Guebres or Gaurs of Perſia, who account themſelves the diſciples and ſucceſſors of the ancient Magi, the followers of Zoroaſter. They both of them held, originally, pure and ſimple ideas of a Supreme Being; and theſe, as well as thoſe, ſeem to have realized or ſubſtantiated thoſe ideas, which were originally allegorical. A place near the city of Baku, in the north of Perſia, is the ſcene of the Guebres' or Perſees' devotions. The ſoil is impregnated with a ſurpriſing principle of inflammability, and contains ſeveral old little temples; in one of which, the Guebres pretend to preſerve the ſacred flame of the univerſal fire. They ſtick a large hollow cane in the ground, and through this a flame aſcends, reſembling a lamp burning with very pure ſpirits. The Guebres are numerous, though perſecuted, in Perſia, and are alſo ſcattered into different parts of the Eaſt.

The political eſtabliſhment of religion in Perſia, is Mahometaniſm, of the ſect of Ali; on which account the Turks, who follow the ſucceſſion of Omar and Abu Beker, call them hereticks.

The Perſian court, in antiquity, was celebrated for it's pomp and grandeur. The king was abſolute, and, with immenſe armies, often attempted to reduce Greece under his dominion. Thoſe who approached him were required to proſtrate themſelves before him, and the ſame deſpotiſm on the part of the monarchs of the Eaſt, the ſame abject ſubmiſſion on the part of the people, continue till this day: moreover, ſince the time that Sarah called Abraham, Lord, the women of Aſia have been oppreſſed or degraded. The ſimple woman, in giving Hagar, her handmaid, to her huſband, afforded an example to Iſrael in antiquity, and to Muſſulmans in later times, deſtructive of the marriage unity. But happily the example of the father of the faithful has not been followed by the diſciples of Jeſus.

Some of the Greek, and ſeveral of the Roman, hiſtorians, in mentioning the ancient Perſians, have dwelt with peculiar ſeverity on the

manner, in which they treated their women. Jealous almoſt to diſtraction, they confined them with the ſtricteſt attention, and could not bear that the eye of a ſtranger, ſhould behold the beauty, which they adored.

In the account of the diſmiſſal of Vaſhti, and the adoption of Eſther, the niece of Mordecai the Jew, we have an inſtance of a contrary conduct in the king of Perſia. In all ages, and in almoſt every country, the women have been impoſed on; and this deſpot appears to have been a greater enemy to the females, and conſequently to mankind at large, than even Solomon. We are not informed how many injured women were delivered to the cuſtody of the chamberlain, which kept the concubines; perhaps their number did not equal, but their lot might be harder than even that of the women of the voluptary of Jeruſalem; and other acts of his life, ſhow the abominable tyranny of the court of Perſia.

When Ahaſuerus, which reigned from India, even unto Ethiopia, made a feaſt, and his heart was merry with wine, he commanded the ſeven chamberlains to bring Vaſhti, the queen, before him, with the crown royal, to ſhew the people and the princes her beauty: for ſhe was fair to look on. But the queen refuſed to come, therefore was the king very wroth, and his anger burned in him. Then the king ſaid unto the wiſe men, what ſhall we do unto the queen Vaſhti according to law, becauſe ſhe hath not performed the commandment of the king Ahaſuerus by the chamberlains? And Memucan anſwered before the king and the princes, Vaſhti the queen hath not done wrong to the king only, but alſo to all the princes, and to all the people that are in all the provinces of the king Ahaſuerus. For this deed of the queen ſhall come abroad unto all women, ſo that they ſhall deſpiſe their huſbands in their eyes. If it pleaſe the king, let there go a royal commandment from him, and let it be written among the laws of the Perſians and the Medes, that it be not altered, that Vaſhti come no more before king Ahaſuerus; and let the king give her royal eſtate unto another, that is better than ſhe. And when the king's decree, which he ſhall make, ſhall be publiſhed throughout all his empire (for it is great) all the wives ſhall give to their huſbands honour, both to great and ſmall. And the ſaying pleaſed the king and the princes: and the king did according to the word of Memucan. For he ſent letters into all the king's provinces, into every province according to the writing thereof, and to every people after their language, that every man ſhould bear rule in his own houſe, and that it ſhould be publiſhed according to the language of every people.

The monarchs of Perſia placed almoſt the whole of their grandeur, and of their enjoyment, in the number and beauty of the women of their ſeraglios, which they ſelected from among the faireſt, either taken captive in war, or born in their own dominions.

When the wrath of Ahaſuerus was appeaſed, he remembered Vaſhti, and what ſhe had done, and what was decreed againſt her. Then ſaid the king's ſervants, that miniſtered unto him, let there be fair young virgins ſought for the king. And let the king appoint officers in all the provinces of his kingdom, that they may gather together

gether all the fair young virgins unto Suſhan the palace. And let the maiden which pleaſeth the king be queen, inſtead of Vaſhti. And the thing pleaſed the king, and he did ſo. And when many maidens were gathered together unto Suſhan the palace, to the cuſtody of Hegai, Eſther was brought alſo unto the king's houſe, to the cuſtody of Hegai, keeper of the women. Now when every maid's turn was come, to go in to King Ahaſuerus, after that ſhe had been twelve months, according to the manner of the women (for ſo were the days of their purifications accompliſhed, to wit, ſix months with oil of myrrh, and ſix months with ſweet odours, and with other things for the purifying of the women.) Then thus came every maiden to the king, whatſoever ſhe deſired, was given her, to go with her out of the houſe of the women unto the king's houſe. In the evening, ſhe went, and on the morrow, ſhe returned into the ſecond houſe of the women, to the cuſtody of Shaaſhgaz the king's chamberlain, which kept the concubines: ſhe came in unto the king no more, except the king delighted in her, and that ſhe were called by name. And the king loved Eſther above all the women, and ſhe obtained grace and favour in his ſight more than all the virgins; ſo that he ſet the royal crown upon her head, and made her queen inſtead of Vaſhti.

How different the circumſtances of the governments of different countries! the deſpot of Perſia had the choice of the virgins of an hundred and ſeven and twenty provinces.

From the barbarous policy of the laws of this country, the individuals of the royal family, may be ſhut out from the pleaſures of domeſtic life; they may not marry with the people. It is in vain, that they are ſuſceptible of the tender paſſion of love; when this has been yielded to, in oppoſition to cruel laws, the monarch has interfered, and attempted to diſſolve the nuptial tie: his children are forced upon celibacy, whether agreeable to their inclinations or not; or they are laid under the temptation to incontinency, if they have not the virtue of themſelves to enter into, and abide by, connubial engagements; and when their partners are choſen for them, they are ſometimes yoked to thoſe whom they never ſaw, and perhaps to thoſe whom they cannot tenderly love.

In the purification of the Perſian maidens for the deſpot to pollute, we do not diſcover any thing in the manner, to make the poor victim diſagreeable. The purification of captives, among the Hebrews, appears to have been extremely diſguſting. When an Iſraelite ſaw among the captives a beautiful woman, and had a deſire to have her to be his wife, he was to bring her home to his houſe, and ſhe was to ſhave her head, put off her raiment of captivity, remain in his houſe, and bewail her father and her mother, a full month; and after that he was to go in unto her, and be her huſband; and if he had no delight in her, then he was to let her go whither ſhe would; but he was not to ſell her at all for money, nor to make merchandize of her.

The Perſians ſhew great reſpect to old age, and are very polite and hoſpitable; they ſay, that every meal, a ſtranger partakes of with them, brings a bleſſing upon the houſe. But the fear of chains which bind

their bodies, has alſo enſlaved their minds, and their converſation, to men of ſuperior rank to themſelves, is marked with ſigns of the moſt abject and ſlaviſh ſubmiſſion; while, on the contrary, they are as haughty and over-bearing to thoſe whom they account their inferiors.

Men may marry for life, or for any determined time, in Perſia; the contract is witneſſed by the cadi or magiſtrate, and amongſt thouſands, it is ſaid, there has not been one inſtance of their infidelity, during the time agreed upon.

Law, in Perſia, is exerciſed in a very ſummary way: the ſentence on criminals, which is generally very ſevere, being always put into execution on the ſpot. The king calls himſelf Shah, or the Diſpoſer of Kingdoms. Shah or Khan, and Sultan, which he likewiſe aſſumes, are Tartar titles. To acts of ſtate, the Perſian monarch does not ſubſcribe his name; but, in place of it, annexes the following piece of extravagance, as abſurd as any of the titles aſſumed by the kings of Europe. 'This act is given by him, whom the univerſe obeys.' At preſent there are different competitors for the throne of Perſia, and from the commotions that have taken place at different times, the country, that was once fair and flouriſhing, and blooming like a garden, is deſpoiled and deſolated.

136. *Arabia, Turkiſh Empire, &c.*] From the riſing of the ſun to the river, and from the river even to the ends of the earth, we purſue our imaginary way. The Euphrates forms a weſtern boundary of Perſia; on croſſing this celebrated ſtream, we enter upon Arabia. This extenſive peninſula is divided into the Stony, Deſert, and Happy Arabia.

Arabia Petrea is the moſt weſtern, and the ſmalleſt of the three. It is for the moſt part uncultivated, and almoſt totally covered with rocks. In Arabia Deſerta, little is to be ſeen but dry plains, heaps of ſand, raiſed and diſſipated by the wind, and ſteep mountains, never embelliſhed with verdure.

The Arabs, ſettled near the Indian and the Red Sea, and thoſe who inhabit Arabia Felix, were formerly a mild people, fond of liberty, and content with a ſtate of independence, without dreaming of conqueſt. They were too much prejudiced in favour of the beauty of their ſky, and of the ſoil that ſupplied their wants, almoſt without culture, to be tempted to extend their dominion over different countries, lying in another climate. Mahomet changed their ideas: but they retain no traces of the impreſſions he communicated to them. They paſs their time in ſmoking, taking coffee, opium, and ſherbet. Theſe gratifications are preceded, or followed, by exquiſite perfumes that are burnt before them, the ſmoke of which they receive in their cloaths, which are ſlightly ſprinkled with roſe water.

When Mahomet had eſtabliſhed a new religion in his country, his followers imbibed a zeal, which impelled them to conqueſt. They extended their dominion from the Weſtern Ocean to China. They were at the ſame time the apoſtles of their prophet, ſoldiers, and merchants. They attended to commerce, even in the courſe of their conqueſts. Their merchants, manufactures, and ſtaples extended from

Spain

Spain to Tonquin; and the weſtern parts of Europe were indebted to them, for the introduction of arts and ſciences, and of various articles conducive to the convenience and pleaſures of life.

When the power of the Caliphs began to decline, the Arabians, after the example of ſeveral nations they had ſubdued, threw off the yoke of theſe princes, and the country re-aſſumed, by degrees, it's ancient form of government, as well as it's primitive manners. At this era, the nation being, as formerly, divided into tribes, under the conduct of different chiefs, returned to their original character, from which enthuſiaſm and ambition had made them depart.

The ſtature of the Arabians is low, their bodies lean, and their voice ſlender and ſhrill; but they are very active, have robuſt conſtitutions, brown hair, a ſwarthy complexion, and black ſparkling eyes. Grave and ſerious; they conſider their long beards as marks of dignity; they ſpeak little, uſe no geſture, make no pauſes, nor interrupt one another in their converſation. They obſerve the ſtricteſt probity towards each other; but the more carefully they preſerve their phlegmatic character, ſo much the more formidable is their reſentment, when once it is provoked.

The number of people who inhabit the wilder parts of Arabia, may amount to two millions, which is about one ſixth-part of the whole population. They are diſtributed into ſeveral clans, ſome of which are more populous and conſiderable than others, but all independent of each other. Their government is ſimple: an hereditary chief, aſſiſted by a few old men, determines all debates, and puniſhes the offenders. If he is hoſpitable, humane, and juſt, they revere him; if haughty, cruel, and avaricious, they aſſaſſinate him, and appoint a ſucceſſor out of his own family.

Theſe people encamp at all ſeaſons of the year. They have no ſettled abode, and fix at different places, where they can be ſupplied with water, fruits, and paſture. They find an irreſiſtible charm in this wandering life, and conſider the ſedentary Arabs in the light of ſlaves. They live upon the milk and fleſh of their herds. Their habits, tents, cordage, and the carpets they ſleep upon, are all made of the wool of their ſheep, and the hair of their goats and camels. This is the employment of the women in each family, and there is not one man an artiſt in the whole deſert. What they conſume in tobacco, coffee, rice, and dates, is purchaſed with the butter they carry to the frontiers, and the money ariſing from the annual ſale of twenty thouſand camels. Theſe animals, ſo uſeful in the eaſt, were formerly carried to Syria; but the moſt of them are now ſent to Perſia, the perpetual wars there, having occaſioned an extraordinary demand for them, and diminiſhed their ſpecies.

Theſe articles not being ſufficient to ſupply the Arabs with what they wanted, they have contrived to raiſe a contribution on the caravans, which ſuperſtition leads to travel through their ſandy regions. The moſt numerous of theſe, which goes from Damar to Mecca, procures a ſafe paſſage by the payment of a hundred purſes, amounting to near ſeven thouſand pounds, to which the Grand Signior is ſubjected, and which by

cient agreement, is diſtributed among all the hordes. The other caravans make ſimilar terms with the hordes, through whoſe territories they are obliged to paſs. Independent of this expedient, the Arabs inhabiting the moſt northern part of the deſert, have had recourſe to plunder. Theſe people, ſo humane, faithful, and diſintereſted towards each other, are ſavage and rapacious in their tranſactions with foreigners. While they preſerve, in their tents, the characters of beneficent and generous hoſts, they commit continual depredations in the towns and villages of their neighbourhood. They are good fathers, good huſbands, and good maſters, but they ſeem to think that they have a right to conſider all as enemies, who do not belong to their family. They frequently carry their incurſions to a great diſtance, and Syria, Meſopotamia, and Perſia, are not uncommonly the ſcenes of their depredations.

The Arabs, who devote themſelves to plunder, train their camels, from their birth, to all the hardſhips and exerciſes they are to undergo, during the whole courſe of their lives. They accuſtom them to travel far, and eat little. The animal is early inured, to paſs whole days without drinking, and nights without ſleep. It is taught to go down upon it's knees, to receive it's load, the weight of which is inſenſibly increaſed, as it's ſtrength is improved by age, and by the habit of bearing fatigue. The Arabians qualify the camel for expedition, by matches, in which the horſe, which is more active and nimble, runs againſt him, and for a while, excels him in the race; but the camel tires out his rival in a long courſe. When the maſter and the camel are ready, and equipped for plunder, they ſet out, traverſe the ſandy deſerts, and lie in ambuſh upon the confines to rob the merchant or traveller. The man ravages, maſſacres, and ſeizes the prey; and the innocent and docile creatures carry off the booty. If they be purſued, they make a precipitate retreat. The maſter mounts his favourite camel, drives the whole troop before him, travels three hundred leagues in eight days, without unloading his camels, or allowing them more than an hour each day for reſt, and a cake of dough for their ſubſiſtence. They are ſometimes the whole time without drinking, unleſs they happen to ſee a ſpring at a little diſtance from the road, when they redouble their pace, run to the water with eagerneſs, and take as much, at one draught, as is ſufficent to quench their preſent thirſt, and ſerve them to the end of their journey.

On their fleet but docile courſers, alſo, which ſeem to underſtand the voice of their maſters, and wait at the door of their tents, all day long, fully equipped, and ready for mounting, they traverſe the deſerts, and hover round the caravans to plunder the merchants, and the Muſſulmans, on their pilgrimage to Mecca. Travellers and pilgrims, from different nations, led hither through motives of devotion or curioſity, are ſtruck with terror on their approach towards the deſerts. The robbers ſometimes form very large bodies, headed by a captain; ſo lately as 1750, a hoſt of 50,000 Arabians attacked a caravan, returning from Mecca, killed about 60,000 perſons, and plundered it of every thing valuable, though eſcorted by a Turkiſh army.

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There are Arabs who, living in diſtricts that afford paſture, and where the ſoil is proper for barley, breed the fineſt horſes in the world. Theſe horſes are ſent into different parts, to improve and multiply the breed of theſe animals, which are every where inferior in ſwiftneſs, beauty, and ſagacity, to thoſe of Arabia. Their owners live with them as domeſtics, on whoſe ſervice and affection they can rely. The Arabian, his wife, and family, his mare and her foal, generally lie indiſcriminately together in the ſame tent; the little children frequently climb, without fear, upon the body of the inoffenſive animal, which permits them to play with, and careſs it without injury. The Arabs never beat their horſes; they ſpeak to, and ſeem to hold friendly intercourſe with, them; they never whip them, and ſeldom make uſe of the ſpur. Inſtead of croſſing the breed, as with us, the Arabs take every precaution to keep it pure and unmixed. They preſerve, with great care, the genealogies of their horſes, ſome of which are called nobles, being, as they expreſs it, of a pure and ancient race, purer than milk. Theſe Arabs are ſimple, mild, and docile: and the different religions that have prevailed in theſe countries, and the ſeveral governments, of which they have been the ſubjects or tributaries, have produced very little change in their habits or character.

The Arabs had ever entertained an affection for their city of Mecca. They ſuppoſed it to have been the reſidence of Abraham, and they flocked from all parts, to a temple, of which they believed he was the founder. Mahomet baniſhed the idols from this revered place, and dedicated it to the unity of the Supreme Being; but, when he got into power, his inſtitutes ſhew him to have been an acute politician. To promote the concourſe of ſtrangers to a city, which he intended to make the capital of his empire, he commanded that all who embraced his law, ſhould, once in their lives, undertake a pilgrimage thither, on pain of dying reprobates, if they diſobeyed. He ordered alſo, that every pilgrim, of whatever country he was, ſhould purchaſe five pieces of cotton, and get them conſecrated, and made into handkerchiefs for himſelf, and all the perſons, belonging to his family, who were prevented, by reaſonable impediments, from undertaking this holy expedition. This policy made Arabia the centre of a prodigious trade, when the pilgrims amounted to ſeveral millions; but this zeal is ſo much abated, eſpecially on the coaſt of Africa, in Hindooſtan, and Perſia, in proportion to the reſpective diſtances of thoſe places from Mecca, that the number is reduced to a hundred and fifty thouſand; the majority of whom are Turks.

We might now, conſiſtently with our plan, croſs the Red Sea, and make our deſcent upon Africa; but there is an Aſiatic nation, ſettled in Europe, who retain the eaſtern dreſs and manners, and who include, in their territories, the principal places, which have been celebrated in the Greek and Hebrew writings. We may juſt pay them a tranſient viſit, and then paſs through the Propontis, the Helleſpont, and the Archipelago, among the ruins of Greece; and ſtill purſuing our imaginary way, we may croſs the Mediterranean, to the ſeven mouths of the Nile.

In paſſing from Mecca to Conſtantinople, we creſs the route of the Midianites and Iſhmaelites, when they took Joſeph into Egypt, whom they had bought of his brethren; and the track of Jacob and his ſons, when they came to the court of Pharaoh: we traverſe alſo the line of march of the children of Iſrael in the wilderneſs, on their egreſs from Egypt; of the numerous armies of Ethiopia and Egypt, in their attacks upon Aſia; of the Scythians, Aſſyrians, Babylonians, Perſians, Macedonians, and Romans, on their conqueſts of Egypt; and of the Mahometans, in later times.

On leaving the wilderneſs, and proceeding northwards, we enter Paleſtine. In Aſia, as we have ſeen, have ariſen different teachers and leaders of the people; and various have been the religious ſyſtems they have eſtabliſhed. In general, polygamy, and, in many inſtances, war has prevailed, in the Eaſt; but, in Paleſtine, an example of a very different kind has been exhibited: yet the profeſſed followers of Jeſus, regarding the place of his life, ſufferings, and death with partiality, have reſorted to this very country, where he ſhewed ſuch an example of patience and peace, and diſputing the place with the Muſſulmans, have moiſtened the ſoil with blood. They called the country, the Holy Land; and, what was ſtill more abſurd, they denominated thoſe extravagant expeditions, the Cruſades, wherein millions of the Chriſtians, from all parts of Europe, loſt their lives, holy wars. At preſent, they content themſelves, with the opportunity of performing pilgrimages to the ſepulchre at Jeruſalem, which town, about three miles in circumference, now includes Mount Calvary within it's walls, Bethlehem is alſo much viſited by pilgrims; and from Mount Horeb to Nazareth, convents, chapels, &c. are ſcattered along through this celebrated country, on the ſpots where the remarkable events recorded in the Bible have happened. The Chriſtians are unmoleſted, and even protected by the Turks, who derive a profit from the pilgrimages to their country.

The Mahometans, in propagating their faith by force and arms, have acted conſiſtently with the precepts and example of their prophet.

The Goths and Vandals, in overturning the Roman Empire, and in ravaging and reducing the ſouthern provinces of Europe, have acted with equal conſiſtency. Woden was their preceptor; Woden was alſo an Aſiatic: he became the Mars of the North.

When the Scythians had been driven out, by the Romans under Pompey, from that vaſt ſpace, which lies between the Euxine and Caſpian ſeas, they over-ran the countries on the north and weſt of Europe. Woden, the leader, infuſed into the people, ſuch a hatred againſt the tyrannical power of the Romans, that in a few centuries after his death, after having ſhaken it by repeated attacks, they were at length ſucceſsful enough totally to ſubvert it. The invincible boldneſs and impetuoſity of theſe people did not ariſe merely from their ſavage manner of life, and the rough and military education they received; the ſanguinary tenets of the religion of Woden, eſtabliſhed or confirmed their ferocious manners. That victorious impoſtor ordered, that all the implements of war, ſuch as ſwords, axes, and lances, ſhould be deified.

The moſt ſacred engagements were confirmed by theſe inſtruments, which they ſo highly valued. A lance, ſet up in the middle of a plain, was the ſignal for prayer and ſacrifice. Woden himſelf, at his death, was ranked among the immortal gods, and was the firſt deity of thoſe regions, where the rocks and woods were ſtained and conſecrated with human blood. His followers thought they honoured him by calling him the god of armies, the father of ſlaughter, the deſtroyer of mankind, the promoter of diſcord. The warriors, when they went to battle, made a vow to ſend him a certain number of ſouls, which they devoted to him: theſe ſouls were the right of Woden. It was the general belief, that he appeared in every battle, either to protect thoſe who fought valiantly, or to mark out the happy victims he reſerved for himſelf; that theſe followed him to the regions of bliſs, which were open to none but warriors. The people ran to death and to martyrdom, to obtain this reward; and this belief increaſed their propenſity to war, till it grew to enthuſiaſm.

That the followers of Mahomet and of Woden, ſhould raiſe the cry of war, and enter into it's enormities, ſeems not at all wonderful; but, that the profeſſed followers of the meek and humble Jeſus, ſhould run into ſuch exceſſes, ſeems unaccountable. As theſe, however, in the practice of war, have acted in direct oppoſition to the teacher they profeſſed to follow, their deeds have been yet more atrocious than thoſe of the others, and the ravages and the maſſacres committed by the Europeans, on their firſt arrival in the Eaſt and Weſt Indies, were generally perpetrated under the banner of the croſs. In thoſe days, they derived their authority from the pontiff of Rome, who gave them the lands of the heathen for their inheritance; and the moſt ſanguinary ruffians accounted themſelves the apoſtles of the holy faith.

In purſuing our ideal journey from Mecca to Conſtantinople; on our right hand, we leave the magnificent ruins of Palmira in the Deſerts of Arabia, and thoſe of Balbec or Heliopolis in Syria: Babylon and Nineveh are no more to be diſtinguiſhed. On our left hand, Gaza, Tyre, and Sidon, from their advantageous ſituation, continue to be ſeaports till this day. Troy is ſtill diſcoverable by it's ruins. It's ſituation is on the eaſtern ſide of the Archipelago, at the foot of Mount Ida; and about a hundred miles north of it, on the other ſide of the water, on the Thracian Boſphorus, ſtands the city of Conſtantinople.

The Grand Signior is deſpotic, like the other monarchs of the Eaſt; and here polygamy prevails, as in the other Mahometan countries.

In Conſtantinople there is a market for ſlaves of both ſexes, and the Jews are the principal merchants, who bring them to be ſold: there are great numbers of girls, brought from Hungary, Greece, Candia, Circaſſia, Mingrelia, and Georgia, for the Turks, who buy them for their ſeraglios. O religion of Jeſus, much as thou haſt been perverted, thou haſt not yet been tortured into a ſanction for ſuch abominations as theſe! Happily, chaſtity yet continues to be acknowledged by thy profeſſors, to be one of thy precepts. Happily they have not yet deſcended to this laſt, this loweſt ſtep of abrutalization of the human ſpecies. In a few inſtances, they have followed the examples of the Hebrew patriarchs; they have had more than one wife. Philip, Langrave of Heſſe Caſſel,

wanted, while his wife was yet living, to marry a young woman, named Catherine Sael, and applied to Luther for a diſpenſation, who convoked a ſynod of ſix reformers. They found that polygamy had been practiſed by a Roman emperor, and by ſeveral of the kings of the Franks, and concluded, that marriage was only a civil compact, and that the goſpel had no where, in expreſs terms, commanded monogamy. They therefore ſigned a permiſſion for Philip to marry another wife, which he did ſoon after, with the ſeeming conſent of his firſt wife, the Princeſs of Savoy; and thus Luther exerciſed an authority which, not even the moſt enterpriſing of the popes, in the plenitude of their power, had ever attempted. The famous Jack of Leyden, who pretended himſelf to be a prophet and a king, aſſerted that he had a right to follow the example of the kings of Iſrael, and proceeded to marry ſeventeen wives, before he was cut off in his career. And the preſent age has afforded a champion in defence of polygamy. A late preacher, of the church of England, in London, vindicated the practice, and, conſiſtently with his doctrine, married two wives.

The Chriſtians have laid hold of thoſe who had none to help them, of both ſexes, and of every age: they have bought and ſold their fellows, like beaſts of the field; and, in accompliſhing their cruel purpoſes, they have made the moſt dreadful deſolation; but, they deſtinated their unhappy victims to labour; they generally received the gain of oppreſſion, but not of proſtitution. It is to be hoped, that there will never be a market among the profeſſors of Chriſtianity, where ſuch violence will be committed on the feelings of the female heart. Yet if there be a parent, who, from ſelfiſh views, is capable of attempting, or even wiſhing, to divert the affections of his child, from the object of her eſteem or love, however plauſibly he may talk of prudence and duty, of her welfare and good, and of his wiſh to ſee her comfortably ſettled; is he not fit to take a ſtation in this abominable market of Conſtantinople? The man who can wiſh his daughter to give her hand to him who has not her affections, who preſumes to dictate to her, who can wiſh her to prefer, in any degree, one ſuitor before another, becauſe he has poſſeſſions, is fit for ſuch a market; and the wretch who can knowingly accept a partner on ſuch terms, would be capable, had he the countenance of the multitude, of keeping his haram or ſeraglio, and of becoming a cuſtomer to the unworthy parent. The chaſte principle of Chriſtianity has not poſſeſſion of their minds; they have not a right to reprobate the licentious maxims of Mahomet.

In paſſing from Conſtantinople to the Nile, by water, we ſail through the ſea of Marmora, the Dardanelles, and the Archipelago, or the Propontis, the Helleſpont and the Egean ſea. On our right, we leave the magnificent ruins of Athens, and the more decayed ones of Corinth, and others in the Peloponeſus, now called the Morea. There, and in the iſlands, the Greeks lead an indolent ſort of life. Under the dominion of the Turks, they have loſt all that energy that formerly marked their character, when, notwithſtanding their continual inteſtine broils, and their wars with the Perſians, they cultivated the arts to ſuch a degree of perfection, that they have never ſince been equalled. They profeſs Chriſtianity, and are unmoleſted in their worſhip by

the Mahometans. In this route we croſs the tracks of Paris, who carried off Helen; and of the Greeks confederated againſt troy, of Alexander againſt Aſia; and of Tamerlane againſt the Turks: we croſs alſo the line of march of the numerous armies of Xerxes, when he invaded Greece, for they croſſed the Dardanelles or Helleſpont, by means of a prodigious bridge of boats. On leaving the Archipelago, the iſland of Candia, formerly Crete, riſes on the view, with mount Ida, a ſharp-pointed rocky hill, in it's centre. In paſſing this celebrated iſle, we croſs the track of the Centurion, who took Paul a priſoner to Rome. The firſt city, in Africa, which preſents itſelf to view, on entering the Nile, is Alexandria; and 125 miles up this celebrated river, ſtands Grand Cairo, the capital of Egypt.

SECTION XII.

The Countries of Africa; Egypt, Barbary, Ethiopia, Negroland, and Guinea; Enſlavement of the Africans; and Slavery in Antiquity.

The moſt ſtriking and moſt deformed part of the ſketch of Africa, is the traffic that is carried on here in the perſons of men. We paſs haſtily the pyramids, and the other immenſe productions of art and labour, with the broken ſtatues and ruins of cities and temples, ſcattered along the northern parts of this quarter of the globe. We ſhall glance, in a very tranſient way, on the other parts of Africa, and make haſte to that coaſt, where, as in a focus, the crimes of three quarters of the globe are concentrated; but where the compaſſionate mind will feel ſome relief, in finding that Michael has here commmenced his war againſt the Dragon.

The Britiſh ſettlements of Sierra Leona and Bulama, and the Daniſh one at Aquapim, are directly oppoſed to the ſlave trade. The object of theſe colonizations is to raiſe, there, by the hands of freemen, the productions of the Weſt Indies, to cultivate uſeful knowledge among the natives; and to eſtabliſh a commerce which may be beneficial to Europe and Africa; a commerce unpolluted with crimes, unſtained with human blood. May the angels or meſſengers of help, to the moſt abuſed portion of the human race, ſee the happy effects of their pious labours; and may the hands of their opponents be chained up for ever from the continuation of their abominable practices.

137. *Egypt, Barbary, Ethiopia, &c.*] The Egyptians and the Moors, along the northern coaſts of Africa, from the ſhores of the Red Sea, to thoſe of the Atlantic Ocean, are acquainted with arts and manufactures. In antiquity, the Egyptians were famous for ſcience, the Carthaginians for commerce and navigation, and the ruins of their former magnificence aſtoniſh to this day; but the reveries of aſtrology form the ſcience of modern Egyptians, and piracy is the employment of the marine of the Moors. Chriſtian churches were alſo gathered in this country

country at an early period, as well as in Aſia, and the ſouthern parts of Europe; but here, as in Aſia, the doctrines of Mahomet have ſuperceded the profeſſion of Chriſtianity. In the other parts of Africa, they ſeem very generally in the practice of idolatry; but the inner parts this country are but little known to Europeans; they all appear however almoſt wholly ignorant of ſciences and arts; and their chief barter are conſequently natural productions; as gums, bees wax, animals, elephants teeth, gold duſt, &c.

South of Egypt lies Ethiopia, a tract extending in it's largeſt acceptation, to the Cape of Good Hope; it's borders on the weſt, as undetermined as thoſe of ancient Scythia, and in it's different countries of Nubia, Abyſſinia, Zanguebar, Caffraria, Lower Guinea, &c. including, perhaps, a greater variety of manners and men than Tartary itſelf. The jealouſy of the Abyſſinians, and the prohibition of the Turks, who claim their borders on the Red Sea, and engroſs their traffic of gold, emeralds, horſes, rice, &c. for the manufactures of the loom, prevent us from knowing much of themſelves, we have learnt, however, that their profeſſion is a mixture of Chriſtianity and Judaiſm. South of this, in Monoemugi, it is ſaid there are Cannibals who offer up human ſacrifices, ſparing none who are hardy enough to venture through their country. All along the coaſt of Zanguebar, on the ſouth-eaſt ſide of Africa, the Portugueſe have ſettlements; and, in ſome parts, have commixed with the natives, and prevailed on them to adopt the European mode of dreſs. At the Cape, or moſt ſouthern part of the Continent, we meet with the Dutch; theſe cannot boaſt a ſimilar acquiſition. The Hottentots are ſo entirely attached to liberty, and their own manner of life, that they have not yet, any of them, become converts to European cuſtoms; they move about in companies, with their huts, beſmear their bodies with greaſe and ſoot, and put heaps of it on their heads, which, when clotted and hard, form a filthy ſort of cap; they wear mantles of ſheep's ſkin with the wool outwards; and wrap thongs of half-dried ſkins round their legs, which makes them walk like a trooper in jack boots; they have particular dances, when the moon is new or at full, which looks like idolatry. They puniſh murder, adultery, and robbery, with death.

138. *Negroland, Guinea, and Enſlavement of the Africans, &c.*] Along the weſtern coaſt of Africa alſo, on the ſhores of Negroland and Guinea, the Europeans have many ſettlements; hence they bring gold duſt, elephants teeth, gums, and drugs; their traffic ſtops not here; alas! they make even man an article of commerce!

Parents and children, partners and friends, and every individual, how would you like to be torn from your every neareſt and moſt tender connection, and from your dear native home, and carried into bondage you know not whither, by people whom ye never injured, and with whom ye have no acquaintance? yet ſuch is annually the lot of thouſands, and tens of thouſands, of the poor natives of Africa! and it is a lamentable truth, that their oppreſſors are thoſe who make profeſſion of the Chriſtian name, and that the legiſlature of our nation encourage this buſineſs. It is to be hoped, in charity to the king and his counſellors, that they cannot be fully ſenſible of the ſufferings of the

poor

poor oppreſſed negroes; for if they were, ſurely they could not find peace of mind till they exerted themſelves to put a ſtop to ſuch iniquitous proceedings, the very relations of which might make the hearts of the peaceful melt with pity, and thoſe of well-meaning zealots burn with indignation. While it is a maxim in the law of this land, that it's air is too pure for a ſlave to breathe; or, in other terms, that the inſtant a ſlave ſets his foot down in it, whatever may have been his condition before, he becomes free: how extremely unjuſt and inconſiſtent muſt it appear, that countries abroad, which own no other government, ſhould be under ſo very different a predicament; that men are there bought and ſold like the beaſts of the field! and how much of ſelfiſhneſs and oſtentation muſt we ſuſpect in the boaſts of the Engliſh, that their laws are thus free, and declarative of the natural rights of mankind, while the very ſame laws hold thouſands in a bondage worſe than that of Pharaoh, who, with his numerous hoſt, we read, was ſwallowed up in the Red Sea, for hardneſs of heart.

It is ſaid by ſome of the traffickers in the human ſpecies, that the negroes are brought from a wretched cruel country; and, that they profit much by their being tranſported to the more humane European ſettlements. Guinea is not free from the calamities of human life, any more than other countries; but alas! how has the catalogue of theſe been ſwelled, by their intercourſe with white people! and, however diligently theſe may propagate reports to excuſe their traffic, and palliate their crimes; whatever they may perſuade themſelves in juſtification of this ſhocking trade, the facts related by human obſervers, and even by ſome of themſelves, might ſeem ſufficient to pierce the moſt unrelenting breaſts; but the love of gain has ſteeled the hearts of theſe wretched people againſt the impreſſions of pity, and blinded their eyes, that they cannot ſee the beauty of juſtice, mercy and truth; and their hiſtory affords, perhaps, the moſt melancholy picture of the depravity of mankind, to be met with this day on the face of the earth. Happy the man, who, ſeeing what lengths theſe poor people have got to, by giving way to avarice and the violence of their paſſions, takes warning againſt the evils of pride and ſelfiſhneſs. Happy he, who, feeling the infirmities of human nature, learns to pity this moſt lamentable deſcription of people, whoſe ſituation is more deplorable, infinitely more ſo, than that of the poor innocent negroes, who endure their oppreſſion, who look forward with hope, to the awful period which delivers them from their bondage, and meet it with joy and ſmiles on their countenances. An account of the black people in their native country; the manner of their capture; their treatment on the voyage, and afterwards in ſlavery; may piteouſly ſhew what cauſe there is given for the preceding reflections and remarks.

"Which way ſoever I turned my eyes on this pleaſant ſpot," ſays Adanſon, in his account of Goree, and Senegal, "I beheld a perfect image of human nature: an agreeable ſolitude bounded on every ſide by charming landſcapes; the rural ſituation of cottages in the midſt of trees; the eaſe and indolence of the negroes, reclined under the ſhade of their ſpreading foliage; the ſimplicity of their dreſs and manners; the whole revived in my mind the idea of our firſt parents, and ſeemed

ſeemed to contemplate the world in it's primitive ſtate: they are, generally ſpeaking, very good-natured, ſociable, and obliging." This deſcription appears equally applicable to the other parts of the country.

Guinea ſeems, generally, very populous and well cultivated, in ſome parts looking like an entire garden, interſperſed with villages and towns; wild fowl and poultry are very numerous; their meadows feed vaſt herds of large and ſmall cattle; the low grounds, in ſome places, divided by ſmall canals, are ſowed with rice; the higher land is planted with Indian corn, millet, and peaſe of different ſorts; they are plentifully ſupplied with potatoes and fruit. The natives are generally a good ſort of people: honeſt in their dealings; friendly to ſtrangers; of a mild converſation; affable, and eaſy to be overcome by reaſon. The more diſcerning of them, account it their greateſt unhappineſs, that they were ever viſited by the Europeans, the Chriſtians having introduced the traffic of ſlaves, and baniſhed that peace from amongſt them, they formerly lived in.

The calamities to which theſe poor people are expoſed, in every ſtage of this iniquitous traffic, ſeem to be unparalleled in the hiſtory of any other nation, whether ancient or modern. Iron and other manufactures of Europe, are the articles given in exchange for the poor ſlaves; for theſe, the corrupted Africans will practiſe every violence and cruelty on their countrymen. If a ſhip come in ſight, it is conſidered as a ſufficient motive for a war, and as a ſignal for an inſtantaneous commencement of hoſtilities. They fall on the neighbouring nations, for the purpoſe of making priſoners or ſlaves, and in the tumult of war, their rage often predominates, even over motives of avarice; in the height of their fury, they maſſacre their opponents. If a king fails in making priſoners of his enemies, he ſurrounds, with his army, one of the towns of his own ſubjects, ſets fire to the houſes, and picks up the people, as they attempt to eſcape from the flames. Theſe evils are not merely confined to the coaſts; the negro-factors go many hundreds of miles up the country, with goods bought from the Europeans, where markets of men are kept in the ſame manner as thoſe of beaſts with us. When the poor ſlaves, ſuch as ſurvive the fatigues and hardſhips of the journey, are driven down to the ſea-ſhore, they are ſtripped naked, and ſtrictly examined by the European ſurgeons, both men and women, without the leaſt diſtinction or modeſty; thoſe, which are approved as good, are marked with a red-hot iron, with the ſhip's mark, after which they are put on board the veſſels, the men being ſhackled with irons, two and two together. Beſides theſe methods of procuring ſlaves, in multitudes, the factors, or free negroes, as they are termed, who live on the coaſt, and know how to ſpeak the European languages, are furniſhed with arms and ammunition, and, thus equipped, they ſally forth into the country, and kidnap numbers of children of both ſexes, which they find on the roads, or in the fields, where their parents keep them all day to watch the corn; for thoſe whom they meet with, ſtrong and grown up, they look for a clog of wood, and faſten them to it by the wriſts with ſtaples, and thus bring them to the veſſels, labouring under the load. In vain, the parents bewail the loſs of their offspring; or, in vain, the tender family, at home in the

the village, expect the coming of their ſire, with the approach of the night! the ſhed muſt no more be enlivened with their preſence, nor their labours be alleviated by their company in the fields. So enormous are the practices ye have ſtirred up, ye degenerate ſons of Europe, among theſe well-meaning people, and ſo bitter the afflictions ye have ſtrewed around their dwellings!

Leaving theſe regions of ſorrow and deſolation, we may expect the ſcene to brighten, on contemplating the farther lot of the captives: but alas! their ſufferings ſeem only beginning. Under the weight of affliction, ſome being ſnatched from all that was dear to them upon earth, and under the dreadful apprehenſion of an unknown perpetual ſlavery; pent up within the narrow confines of a veſſel, ſometimes ſix or ſeven hundred together, they are often reduced to a ſtate of deſperation, wherein many have leaped into the ſea, and kept themſelves under water, till they were drowned: others have ſtarved themſelves to death: great numbers have alſo frequently been killed; and ſome deliberately put to death, under the greateſt torture, when they have attempted to riſe, in order to free themſelves from their preſent miſery, and the ſlavery deſigned them.

It may be ſaid, that they are plentifully ſupplied with food on the voyage, and that every precaution is taken, that can be conducive to their health. The ſailors, it is true, often complain, that they themſelves are ſadly pinched; ſome having been inveigled on board, and then detained againſt their wills, that they are obliged to make it out as well as they can, by getting in with the negroes, who are well provided for. The captains wiſh, ſay the crew, to bring the ſlaves in good order to market, and to make us ſo tired of their uſage, that we may deſert them in the Weſt Indies, and ſo loſe our wages; thus do cruelty and fraud mark the manners and habits of theſe wretched people, in every ſtage of this inhuman buſineſs.

That their care of the negroes proceeds not from good-will, may lamentably appear, from their inhuman treatment of them; ſometimes, when they are quiet, and not attempting an eſcape, if there ſhould be any neceſſity, from tempeſtuous weather, for lightening the ſhip; or, if it be preſumed, on the voyage, that the proviſions will fall ſhort, before the voyage can be made, they are many of them thrown overboard; indeed, ſo lightly have their lives been eſteemed, that they have been taken away upon a ſpeculation, that it would be more profitable to drown them, than to run the hazard of their dying. In 1781, one hundred and twenty-two were thrown overboard, from one veſſel; ten others, who were brought upon the deck, for the ſame purpoſe, did not wait to be handcuffed, but leaped into the ſea, and ſhared the fate of their companions; yet the people in the ſhip had not been put upon ſhort allowance; but the wretched captain made this excuſe, on board, for his conduct. "That if the ſlaves, who were then ſickly, had died a natural death, the loſs would have been the owners; but, as they were all thrown alive into the ſea, it would fall upon the underwriters." Thus, ye inſurers, were ye liable to be defrauded, by meddling in this iniquitous traffic; and, thus did ye, yourſelves, ye inconſiderate or wicked men, defraud the negroes of their lives.

The

The preceding fact was proved, in your law-ſuit with the owners, at Guildhall; the horrid deed is recorded in the annals of that court; where, perhaps, more enlightened generations to come, may look back with horror, on the rude practices of their predeceſſors. Hundreds can come forward and ſay, that they heard the melancholy evidence with tears; though the perpetrators of the murders eſcaped the puniſhment due to their crimes.

If the ſhip ſhould arrive ſafe at it's deſtined port, the wretched Africans are again expoſed naked, without any diſtinction of ſexes, to the brutal examination of their purchaſers. In this melancholy ſcene, mothers are ſeen hanging over their daughters, bedewing their naked breaſts with tears; and daughters clinging to their parents, not knowing, what new ſtage of diſtreſs muſt follow their ſeparation, or if ever they ſhall meet again; and here, what ſympathy, what commiſeration, are they to expect? Why, indeed, if they will not ſeparate, as readily as their owners think proper, the whipper is called for, and the laſh exerciſed upon their naked bodies, till they are obliged to part. Having been brought from a country, where a very ſmall labour of tillage ſupplied them abundantly with the neceſſaries of life, the hardſhips, that are impoſed on them, are often more than they can bear: under theſe, together with change of climate, they droop and die in very great numbers; thoſe that ſurvive the firſt two years, are ſaid to be ſeaſoned, or fitted to be put into a gang, to undergo the labours and hardſhips of ſlavery. Although thouſands are ſlaughtered on the African Continent, through this iniquitous traffic, it is eſtimated, that 100,000 are, notwithſtanding, annually brought off from their native country; two-thirds of theſe, by the ſhips of the Engliſh; that fifty thouſand are deſtroyed on the paſſage, and in the ſeaſoning. Woeful havock of the ſons of men! fifty thouſand, then, annually ſurvive, to work and people the plantations. How muſt theſe, and their offspring, baniſh ſolitude from the ſilent tracts, that have been laid waſte by the ſwords of the Europeans, and ſupply inhabitants, in abundance, to the iſlands that have loſt, even the remembrance of their native Indians! As the ſame climate, in a few generations, lightens the blackneſs of their complexions, and throws a ſhade of darkneſs over that of the Europeans, how muſt both, by degrees, be aſſimilated in their perſons; and, how muſt they at laſt imperceptibly commix with each other, and the unbecoming diſtinction of maſter and ſlave be quite worn out! We may amuſe ourſelves with ſuch reflections as theſe, and wiſh to ſee this aggravated evil in the moſt favourable point of view. But alas! the catalogue of facts, that ſtares us in the face, obliges us to forego much of the pleaſure we might derive from ſuch flattering expectations. Theſe deſirable effects but very partially take place; the ſlaves, continually expoſed to the ſeverity of the climate, retain much of their native hue, from generation to generation; while the planters, ſcreening themſelves from the heat of the ſun, and living at their eaſe, ſtill retain ſomething of their light complexion; and the negroes, inſtead of increaſing, in their ſlavery, and peopling the ſolitary waſtes the Europeans have made, are worn down by the rigour of the labour impoſed on them: and by the accumulated hardſhips they are conſtantly expoſed to, their

days

days are ſhortened, and their generations become extinct; inſomuch, that in one of the weſtern colonies of the Europeans, ſix hundred and fifty thouſand ſlaves, were imported within an hundred years; at the expiration of which time, their whole poſterity were found to amount to one hundred and forty thouſand. There is, perhaps, no part of the earth, where beaſts of burden are ſo much oppreſſed, as the negroes in the ſugar plantations. They are ſixteen hours, including the two intervals at meals, in the ſervice of their cruel maſters; and the ſhouts of their drivers, and the cracks of the whip on their naked bodies, which cuts out ſmall pieces of fleſh, at almoſt every ſtroke, are heard all day long in the fields; when wearied with this, they are employed three hours more, in making the neceſſary proviſion for themſelves, five only remain for ſleep, and their day is finiſhed. During the time of crop, which laſts many months, they are often obliged to work all night in the boiling-houſes or mills. The whole gang, as the planter calls his collection of ſlaves, is divided into two or three bodies, and each diviſion takes it's nights by turns in the works: this is a dreadful encroachment upon their time of reſt. Thoſe who can keep their eyes open, during their nightly labour, and are willing to reſiſt the drowſineſs, that is continually coming upon them, are preſently worn out; while ſome of thoſe who are overcome, and who feed the mill between aſleep and awake, ſuffer, for thus obeying the calls of nature, by a limb, a hand, or an arm being ground off.

To ſupport a life of ſuch unparalleled drudgery, the maſter allows to the ſlave, for proviſions, clothing, medicines when ſick, &c. no more than thirty ſhillings per annum, upon an average, and a ſmall ſpot of ground, which he gives him leave to cultivate, on the day called Sunday: preſſed by hunger, he eats the vegetables which this produces, before they are ripe, and contracts diſeaſe. His own ſpot is, perhaps exhauſted, and he has the ſame appetite to be ſatisfied, as before; perhaps, he creeps out clandeſtinely by night, from his hut, to go in ſearch of food, into his maſter's or ſome neighbouring plantation; the watchman, to ſave himſelf from chaſtiſement, is vigilant to detect him, and muſt puniſh him for an example, not with a ſtick, nor with a whip, but with a cutlaſs. Thus it happens, that theſe unhappy ſlaves, if they are taken, are either ſent away, mangled in a barbarous manner, or are killed on the ſpot. Perhaps the poor negro, in the midſt of his labours, and preſſed hard by famine, is found eating the cane which his own hands have planted: this is ſure to be followed by the whip: and ſo unmercifully has it been applied on ſuch an occaſion, as to have been the cauſe, in wet weather, of the ſufferer's death. Knives, or any thing that could be ſeized, have been ſnatched in the fit of phrenzy, and uſed as inſtruments of puniſhment. In their ſlavery, ears have been ſlit, eyes have been beaten out, and bones have been broken. And ſo frequently has this been the caſe, that it has been a matter of conſtant lamentation with diſintereſted perſons, who, out of curioſity, have attended the markets to which theſe unhappy people weekly reſort, that they have not been able to turn their eyes, on any group of them whatever, but they have beheld theſe inhuman marks of paſſion, deſpotiſm, and caprice.

On

On their being firſt ſet down in the plantations, after all the cruelty they have undergone in being forced from their native country, hardly one in a hundred have ſcars, to ſhew they were priſoners of war; they are generally ſuch as have been kidnapped, or ſold by their tyrants, after the deſtruction of a village. The ſlaves are men; they wiſh to be free; they flee ſometimes to the receſſes of the mountains, where they chuſe to live upon any thing that the ſoil affords; nay, on the very ſoil itſelf, rather than return. It ſometimes happens, that the manager of a mountain plantation, falls in with one of theſe; he immediately ſeizes him, and threatens to carry him to his former maſter, unleſs he will conſent to live on the mountain, and cultivate his ground. When his plantation is put in order, he carries him home, abandons him to all the ſuggeſtions of deſpotic rage, and accepts a reward for his honeſty. The unhappy wretch is chained, ſcourged, and tortured; and all this, becauſe he obeyed the dictates of nature, and wanted to be free. If he has been abſent ſix months, he falls a victim to impious law; he is conſidered as a criminal againſt the ſtate; he is tried and condemned, by two or three juſtices of the peace, and without the intervention of a jury: the marſhal, or ſheriff, ſuperintends his execution; and the maſter receives money, as the price of the ſlave, from the public treaſury. Perhaps a reward has been offered for him, dead or alive; in that caſe, he has not ſo much time allowed him; his mercileſs purſuers overtake and ſhoot him, they cut off his head, and exultingly bear it away ſtill reeking with blood; this they produce, as the proof *required by law*, to entitle them to the reward. The Africans are men, they have ſometimes ventured to reſent their abuſes, and reſiſt their oppoſers: what has been the conſequence? they have been murdered at the direction of their maſters; for in thoſe rueful countries, the life of a negroe is only valued at a price, that would ſcarcely purchaſe a horſe. The maſter has the power of murdering his ſlave, if he pay a moderate fine, and the murder muſt be attended with uncommon circumſtances of horror, if it even produce an enquiry. The negroes, ſay their oppreſſors, are an inferior link in the chain of human beings, and intended for ſlavery. It may ſeem ſuperfluous to diſintereſted people to contradict ſo abſurd a poſition: it may be remarked, however, the deſcendants of the Portugueſe, in Zanguebar, have become ſuch a people, their heads having grown woolly, and their complexions black, while thoſe of the negroes in the northern parts of America, and alſo in Europe, have got long hair and fair complexions. But it is well known, that the negroes have capacities like other men; that they become expert workmen, and fine writers both in proſe and verſe, when they have an opportunity of learning.

The following little extract from the writings of an African girl, being part of a hymn, may ſerve to ſhew, that neither genius, nor yet devotion is peculiar to the people of white complexion:

> Fill'd with the praiſe of him who gives the light,
> And draws the ſable curtains of the night,

Let

Let placid ſlumbers ſooth each weary mind
At morn to wake more heavenly and refin'd;
So ſhall the labours of the day begin,
More pure and guarded from the ſnares of ſin, &c.

The authoreſs of theſe lines was Phillis Wheatley, negro ſlave to John Wheatley, of Boſton, in New England. She was kidnapped when only eight years old, and in the year 1761, was tranſported to America, where ſhe was ſold with other ſlaves; ſhe had no ſchool education there, but receiving ſome little inſtruction from the family where ſhe lived, ſhe obtained ſuch a knowledge of the Engliſh language, within ſixteen months from the time of her arrival, as to be able to ſpeak and read it, to the aſtoniſhment of thoſe who heard her. She ſoon afterwards learned to write, and, having a great inclination to learn the Latin tongue, ſhe was indulged by her maſter, and made a progreſs. Her poetical works were publiſhed in the year 1773, when ſhe was about twenty years of age. They contain thirty-eight pieces on different ſubjects. While the hiſtory of this young woman ſhews, that the negroes are not a race of beings inferior to white people, it affords us the pleaſure alſo of obſerving, that they do not always fall into the hands of inhuman tyrants; probably many have been in the practice of purchaſing theſe poor, forlorn, expatriated people, from motives of benevolence, or to prevent their falling into the hands of cruel taſkmaſters.

Since the late devaſtations of the ſword on the American Continent, the lot of the negroes appears in ſome places to be growing ſomewhat more tolerable. In America, ſeveral members of the churches of Rome, of England, of Scotland, of Independents, and others, have liberated their ſlaves, convinced that it is wrong to rob innocent people of their liberty; the Society of Friends have done this in a collective capacity, and many of them have made reſtitution to the people ſo liberated, for the time they had kept them in bondage. The king of Denmark has decreed, that the ſlave-trade ſhall be aboliſhed in his dominions. To debate upon how many negroes a veſſel ſhall carry into ſlavery, and how they ſhall be treated, is as irreconcileable with the natural rights of mankind, as the deliberating on the quantity a robber ſhall be permitted to deſpoil us of, or at beſt, of the portion of ſtolen goods, a receiver ſhall be allowed to purchaſe from a thief, and how he ſhall diſpoſe of it, when he has got it into his hands; with this difference, that the puny invader of property only touches our gold, but the dealer in men, our liberty and lives. A certain great aſſembly has diſgraced itſelf, by ſuch debates and reſolutions. The object was to mitigate the ſufferings of the ſlaves, but did not the meaſure give countenance to, and prolong, rather than haſten the abolition of the wretched traffic? Such laws remind us of the declaration, that 'the tender mercies of the wicked are cruel.' When many thouſands of the people, in theſe countries, had refrained from the gratifications of the weſtern world, on the principles of humanity; when petitions for the abolition of the ſlave-trade were pouring in, from different quarters, to the legiſlature; the wiſhes of the people, for juſtice and mercy, in this palpable inſtance, were not im-

mediately complied with; the ſordid intereſts of individuals, and cowardly political conſiderations, overbalanced the benevolent wiſh. The Britiſh Houſe of Commons, has at length reſolved, that the ſlave-trade ſhall be aboliſhed; but the Lords, with their uſual apathy or inertneſs, ſeem to have fallen aſleep on this paſſion-ſtirring, heart-rouſing queſtion. The American Congreſs has decreed it's abolition; but they yet retain, in their boaſted land of liberty, about 700,000 in bondage; they are, however, continually ſetting them free; and, in the northern ſtates, all the ſlaves have been already emancipated. It is remarkable, that, before the war, the province of Virginia petitioned the Britiſh government, to prohibit the farther importation of ſlaves; but their requeſt was not complied with, and this prevented others from applying in that way. The French Convention has aboliſhed the ſlave-trade, and emancipated the ſlaves throughout their whole republic.

It is to be feared that, in many inſtances, the moſt earneſt advocates for the negroes are not yet fully conſcious, that they are not their ſuperiors. Intermarriages ſeldom take place between the blacks and the whites, and they even aſſemble, in ſome inſtances, ſeparately, for public worſhip. How contrary is this, to the fraternal ſentiment, that we are all the children of the ſame Almighty Parent, who regards us all with equal mercy. The church of Rome has always diſtinguiſhed itſelf, for it's zeal in propagating it's religious tenets among the heathen; and there ſeems to have been leſs of theſe abominable prejudices manifeſted in that community, where the people have once received their doctrines. The ſociety, which has taken the lead, in emancipating the ſlaves, and which has moſt of all, renounced outward forms and ceremonies, ſeems to have been the laſt, in riſing ſuperior to theſe prejudices. While the moſt enlightened authors have been their panegyriſts, for their zeal in eſpouſing the cauſe of the oppreſſed, they have been the moſt backward in receiving into religious fellowſhip, the people of a different colour, inſtead of making haſte to do juſtice, to the catholic principle which they profeſs, in giving the fraternal embrace, ere the chain of bondage was yet broken.

We might now take our leave of the ſubject of ſlavery, and the parts of the earth it has ſo hideouſly deformed; under the comfortable information, that the evil has rather abated, and under the pleaſing hope, that it will at length entirely paſs away: however, before we enter upon the lands of greateſt liberty, the inferior tracts of America, where the natives ſeem unreſtrained and free, to a degree of wildneſs; where the ſenate, while it debates on the intereſt of the tribe, leaves individuals to decide their own conteſts between themſelves; and where the children muſt not be corrected, for fear of breaking their native ſpirit of freedom; a very ſhort hiſtory of ſlavery in general, may perhaps be entertaining.

139. *Slavery in Antiquity.*] Beſides the bond ſervants we read of in antiquity, who found protection, and a comfortable proviſion in the houſeholds of the patriarchs; and ſuch as ſold all that they had, their lands, and themſelves, to Pharaoh, for corn, in the time of famine, when Joſeph was governor; who removed them to cities from one

end,

end of the borders of Egypt to the other; and gave them ſeed to ſow the land, and made a law, that Pharaoh ſhould have the fifth part of the increaſe, and four parts ſhould be their own, for ſeed of the field, and for their food, and for them of their houſeholds, and for food for their little ones: beſides theſe, we read of ſlaves of other deſcriptions, at very early periods. It was generally cuſtomary with the nations in antiquity, to lead their priſoners of war into captivity; and theſe, with their offſpring, were detained in ſervitude. The Goths alſo, in later days, on the ſubverſion of the Roman empire, impoſed on the people they had conquered, the ſeverity of ſervitude. It is thought that this claſs of ſlaves had it's beginning as early as the days of Nimrod; and the horrid practice of kidnapping, or ſtealing off, and ſelling the human ſpecies, appears to be of equal antiquity. The ſtory of Joſeph, as recorded in the ſacred writings, ſhews, that there were men, even at that early period, who travelled up and down as merchants, collecting, not only ſpicery and other wares, but the human ſpecies alſo, for the purpoſes of traffic. Homer mentions Egypt and Cyprus, as common markets for ſlaves, about the time of the Trojan war; and Xenophon, in deſcribing the dramatic Grecian dance, called Harpea, gives a moſt lively picture of the rueful days of antiquity; when the ſtealing of men, as it was accompanied with danger, was accounted valour, and pirates ſought at once emolument and honour, in the equally hazardous and iniquitous buſineſs. The figure of the Harpea was thus: one of the actors, or Grecian ſoldiers, in the character of an huſbandman, is ſeen to till his land, and is obſerved, as he drives his plough, to look frequently behind him, as if apprehenſive of danger; another immediately appears in ſight, in the character of a robber; the huſbandman, having ſeen him previouſly advancing, ſnatches up his arms, and a battle enſues before the plough. At length the robber, having got the better of the huſbandman, binds him, and drives him off with his team. Sometimes it happens, that the huſbandman ſubdues the robber: in this caſe, the ſcene is only reverſed, as the latter is then bound, and driven off by the former. This entertainment, it may be obſerved, was taken from real manners.

We learn from Thuciddes, that the Grecians themſelves, in their primitive ſtate, as well as their cotemporary barbarians, who inhabited the ſea coaſt and iſlands, gave themſelves wholly up to piracy, as their only profeſſion and ſupport. As well whole crews, for the benefit of their reſpective tribes, as private individuals, embarked in this ſhocking buſineſs; they made deſcents on the ſea coaſts, carried off cattle, ſurpriſed whole villages, put many of the inhabitants to the ſword, and carried others into ſlavery. The Jews held ſome of the heathen in bondage, yet were reſtrained by the law from abuſing their perſons, and were obliged to give them their ſabbaths and jubilees. It was appointed, that there ſhould be one law, one rule of juſtice for the native and the ſtranger; and they were repeatedly called on to remember, that they themſelves had been ſlaves in Egppt, and ſtrangers in their land. Such were the reſtrictions the Jews were under, in their conduct to the heathen ſlaves, though only under the Moſaic law. It remained for Chriſtianity, which breathes peace on earth, and good

will to man, to abolish the distinctions between Jew and Gentile, Greek and Barbarian, Bond and Free. The first converts to the doctrines of Jesus, were conspicuously a family of love, averse from the vain distinctions of the world, having all things in common; even in after ages, when the glory of the most holy religion seemed much obscured in it's professors, the principles of benevolence, which it inculcates, generally prevailed at length, against the barbarous, universal, and ancient practices of holding servants in perpetual bondage, which had long deformed the Gothic times, *pro amore Dei*, or, for the love of God, *pro mercede animæ*, for the good of the soul, charters were granted for the manumission of the slaves, which then composed the majority of the people, and about the close of the twelfth century, a general liberty prevailed over the west of Europe. But alas! the professors of the Christian name, when these happy reformations had been wrought at home, many of them abroad renewed the piratical manners of antiquity: the Portuguese led the way, the English, the Spaniards, French, and other maritime powers, soon followed the example. Within two centuries of the preceding happy era, which so generally abolished slavery, in this part of the world, the Europeans made their descents on Africa, and committing depredations on the coast, first carried the wretched inhabitants into slavery; the natives, terrified, fled in confusion from the coast, and fought, in the interior parts of the country, a retreat from the persecution of the invaders. The Europeans pursued, entered their rivers, sailed up into the heart of their country, surprised them in their retreats, and dragged them off. Again the natives fled in consternation, abandoned the banks of the rivers, and left the robbers without a prospect of their prey. The freebooters now adopted different measures; they built themselves forts, and settled in the country; with the gaudy trappings of European art, they excited the wonder and curiosity of the Africans; by presents, and every appearance of munificence, they seduced their confidence and attachment, they found out suitable tools for their iniquitous designs; put these upon furnishing them with their countrymen for slaves; and thus, when they themselves could no longer be thieves, they at last became receivers.

SECTION XIII.

The Discovery of America, and the Events which followed it; with a Description of the Indians or native Americans.

We may now consider the Aborigines of America, or the native Indians of the New World. The Europeans have settled here in far greater numbers perhaps, than in all the other parts of the earth; a view of these people, however, is naturally included in a sketch of the nations of Europe. It is not so much their different manners, as different

different ſituations and political diviſions, that ſeparate them from each other.

140. *Diſcovery of America.*] The Diſcovery of America, by the the Europeans, has been productive of events, wherein moſt of the nations of the earth appear to have been immediately, or remotely intereſted. While the nations of Europe were involved in yet greater barbariſm, than they are at the preſent day, this beautifully diverſified quarter of the globe, firſt preſented itſelf to their wondering view. The enterpriſing and the needy, the active and the indolent, the zealous and the perſecuted, conſidered it as an aſylum from their wretchedneſs, or as a theatre for more extended action; and till this day, it ſtill continues to invite us; till this day, emigrations are annually making.

In antiquity, the Greeks and Romans, from their improvements in learning, in ſciences, and the arts, had conceived the vanity, to account themſelves ſuperior to the other nations of the earth, and the inſolence to term them barbarians, by way of contradiſtinction. This was groſs, even in heathens; but the later Europeans ſeem to have gone far beyond the ancients in theſe errors. The diſgraceful and abominable tenets of divine partiality, which ſtained, and ſtill continue to ſtain the profeſſion of Chriſtianity, induced theſe to conſider thoſe nations, who were not of their profeſſion, as an inferior, a neglected, a reprobated race, which it was lawful to exterminate, to enſlave, or in any way to make to yield to the intereſts of the Chriſtians. On the diſcovery of America, millions of them were put to the ſword; they were hunted down like wild beaſts, and their bodies caſt to the hungry dogs of the Europeans. It was familiar to the early adventurers, to ſpeak, in cold blood, of giving or lending the carcaſe of an Indian, till more ſhould be obtained. By a cruelty, ſtill more oppreſſive, and from the ſame inſatiable thirſt for gold, which had produced their immediate ſlaughter, the wretched Indians were exterminated in ſtill greater numbers. They were buried in the mines, and fell victims by want, by exceſſive labour, and by the unwholeſome vapours, wherein they breathed; their tender frames, heretofore eaſily ſupplied on the kindly ſoil which they inhabited, ſoon ſunk under their complicated hardſhips and diſtreſs. The ſprings of life, and of population, thus ſapped, by an unrelenting and continual tyranny, their country became waſte and deſert, and avarice defeated it's own purpoſe. The miſchief ended not here. To ſupply the place of the exterminated Indians, another quarter of the globe is rendered wretched. Africa is in it's turn deſolated, to ſupply victims to European avarice; wars are kindled among the poor negroes, towns are burnt, and priſoners made for the purpoſe of enſlaving them. Every tender tie, whereby ſociety ſhould be knit together, is rent to pieces; parents, children, huſbands, wives, friends, companions are torn from each other, are ſold, and branded like beaſts of the field; like them are whipt and driven at their labours, and all this, as has already been ſhewn, by the pretenders to, by the profeſſors of, Chriſtianity.

141. *Complexion, Features, &c. of the Indians.*] As the continents of America are extended through every inhabited climate of the world, we may naturally expect to meet with every variety among the ſeveral tribes who inhabit this largeſt quarter of the globe. From the froſts and ſnows, however, which deſolate it's moſt ſouthern extremity, all acroſs the torrid zone, and quite away to the polar regions on the north, there ſeems to be leſs difference in the features, complexion, language, and manners of it's ſeveral tribes, than of any other nations, comprehended in an equal extent of country. As they appear to have derived their origin, in very remote antiquity, from the Tartars on the north, or the clans of wandering Scythians, that were the fartheſt removed from the arts and manners of the poliſhed nations in antiquity, and quite beyond the notice of all hiſtory; as they ſeem to have continued, with inviolable attachment, many of their ancient cuſtoms to this very day; in the hiſtory of one of theſe we ſhall often ſee a juſt picture of the reſt, and perhaps, a moſt lively repreſentation of the manners of ſome of the rude nations of the earth in the days of the ancients. This widely diſperſed people, generally lead a wild and roving life, continually expoſed to every ſeverity of the climate, and alſo anoint their bodies with fat or greaſe, and colour them with paints, they are of a dark complexion, even in temperate climates; on the other hand, the hotteſt parts of America are refreſhed by breezes, or cooled by the ſnow-covered mountains, which ariſe there to an aſtoniſhing height: this prevents the natives from becoming perfectly black like the negroes; and eſpecially as the country is not overſtocked with people, and the inhabitants have an opportunity of chuſing the moſt pleaſant ſituations. The natives of America ſeem to differ more in ſize, than in features or complexion; indeed, in this reſpect, their extenſive country of many climates, ſeems to afford a greater variety than the whole earth beſides. Who, for inſtance, are more diminutive than the little Greenlanders, and their neighbours at the polar region? between four and five feet in ſtature; and what nations are ſo ſtrong, active and gigantic as the tall tribes of Indians that are ſeen in Patagonia! among whom the talleſt of the Engliſh adventurers, under the Commodore Byron, appeared but like pigmies.

Before the Europeans arrived in America, ſome of the natives, eſpecially the Mexicans, had made conſiderable advances in the arts; they had canoes, ſtone houſes, and regular towns; they had temples, but their profeſſion was idolatry. In their pictureſque and emblematic drawings, they had made an eſſay towards the art of writing or record; but unhappily they had gold and valuable jewels; it was to rob them of theſe, and take poſſeſſion of their country, the cruel Europeans put millions to the ſword, reduced others to ſlavery; and deſtroying their improvements, together with their government, threw the reſt again upon their native wilds: though ſome of them have been bowed to the yoke of ſlavery by the Spaniards, and ſome of them, corrupted by the Dutch, have adopted, like the Africans, the practice of kidnapping; while others have been reduced to civilization by the Jeſuit-profeſſors.

142. *Paſſion*

142. *Paſſion for Liberty, and Public Aſſemblies.*] Theſe Indians are generally enthuſiaſts for liberty. Their principal buſineſs is hunting, fiſhing, or war; agriculture, and domeſtic concerns devolve upon the women. When a child is born, the mother and the infant are plunged into the water; the mother attends to buſineſs the next day as uſual; the child is tied, or ſwathed down to a piece of board; the board, together with the child, is hung upon a branch, laid down upon the ground, or taken up by the mother as occaſion may require; in this ſituation the infant is taken care of without much trouble, till it gets ſtrength in it's limbs, it is then looſened and let to crawl about: as they are brought up without correction or reſtraint, their paſſions ſeem to grow violent with their years, and all their affections ſeem carried to extremes. Their revenge ſeems implacable, their friendſhips unbounded; their priſoners of war are adopted into their own families, and conſidered as one of themſelves, or elſe they are put to death with the moſt unrelenting cruelty; ſo little idea have they of ſlavery or ſubordination, and ſo marked are all their actions with the extremes of hatred and love.

Upon ſerious occaſions, the Indians are very grave: they are obſervant of thoſe in company; reſpectful to the aged; they never ſpeak before they have well conſidered the matter, and are ſure the perſon who ſpoke before them has entirely finiſhed: hence they have the greateſt contempt for the vivacity of the Europeans, who continually interrupt each other, and frequently ſpeak all together. In their aſſemblies, and public councils, every man is heard in his turn, according as his years, his wiſdom, or his ſervices to his country, have ranked him. In ſome tribes they have a king, and in ſome a ſort of nobles; but their power is rather perſuaſive than coercive; they are rather revered as fathers, than dreaded as lords. The young attend the public councils for inſtruction; here they learn the hiſtory of their nation; here they are inflamed with the ſongs of thoſe who celebrate the heroic deeds of their anceſtors; here the orators expreſs their thoughts in a bold and figurative manner, ſtronger than the refined nations of Europe can bear, and with geſtures equally violent, but often extremely natural and expreſſive: here the intereſts of the nation are debated on, and reſolved; they regulate whatever regards the internal peace and order of the ſtate, and determine on future expeditions; the bond of friendſhip unites the ſociety; every one haſtens to execute the orders of the ſenate, and ſo unanimous are they in their conduct, and in all their manners, that in the hiſtory of the tribe we may read the habits of the individual, and, reciprocally, in the life of the Indian, we have the hiſtory of his nation.

143. *Mode of War, and Conduct to Priſoners.*] When a war is reſolved on, the principal captain ſummons the youth of the town to which he belongs; the war kettle is ſet on the fire; the war ſong and dances commence: the hatchet is ſent to all the villages of the nation, and to all it's allies; war ſongs and hideous howlings are heard day and night over their tract of the country; the women add their cries to thoſe of the men, lamenting the friends they have loſt, either in war or by a natural death, and demanding their places to be ſupplied by captives

from the enemy. None are forced into the war; thoſe that have a mind to ſhare in the expedition, give ſmall billets of wood to the war captain, they are then conſidered as enliſted, and it is death to recede. The warriors have their faces blackened with charcoal, and daſhed with ſtreaks of vermilion. The nations of Indians in America are ſeparated by vaſt deſert frontiers, and emboſomed in thick and gloomy foreſts, that muſt be paſſed before they meet with the nation whom they intend to attack; theſe are ſometimes wholly ignorant of any danger, the enemy having waited whole years to attack them by ſurprize, and it falls an eaſy prey to the unexpected fury of the invaders: but it more frequently happens, that it has notice of the deſign, and prepares to take the ſame advantage of the leaſt want of vigilance in thoſe who mean to attack them. They light no fires to warm themſelves, or dreſs their victuals, but ſubſiſt on the frugal pittance of a little meal mixed with water; they lie cloſe to the ground during the day, and march only in the night, and even then with the utmoſt precaution. When they diſcover an army of the enemy, they throw themſelves flat on their faces among the withered leaves, from which they are hardly diſcernible, their bodies being painted of a colour to reſemble them. They generally let a part paſs unmoleſted, and then riſing a little, and ſetting up a moſt tremendous ſhout, which they call the war-hoop, they pour a ſtorm of muſket bullets upon the enemy. The party attacked return the ſame cry, and every man ſhelters himſelf behind a tree, and fires on the adverſe party, the moment they riſe from the ground to give the ſecond volley: after fighting for ſome time in this manner, they leave their covert, and ruſh upon each other with ſmall axes or tomahawks; the conteſt is ſoon decided, and the conquerors ſatiate their ſavage fury with the moſt horrid inſults and barbarities on the dead bodies of their enemies: they cut off the ſcalps and carry them off to their huts, to hang up as trophies of their valour and victory. The priſoners are offered to thoſe who have loſt friends; and, he is received into the houſe or ſentenced to death; if the former, he is conſidered as a father, a ſon, or a huſband that is loſt, and no other mark of captivity remains, than a prohibition of returning upon pain of death; but if the priſoner is refuſed, it is no longer in the power of any one to ſave him. The nation is aſſembled, the ſcaffold is raiſed, and the priſoner is faſtened to a ſtake; he immediately opens his death ſong, and prepares for the enſuing ſcene of cruelty with a moſt undaunted courage, while his perſecutors make ready to put it to the utmoſt proof, by every torment which the mind of man, ingenious in miſchief, can invent: the priſoner endures all their tortures with aſtoniſhing conſtancy and reſolution; not a groan, not a ſigh, nor a diſtortion of countenance eſcapes him; he poſſeſſes his mind entirely, in the midſt of the moſt exquiſite anguiſh, and only ſeeks relief from his miſery, by inſulting his tormentors, and endeavouring, by the moſt contemptuous reproaches, to provoke their rage, that they may at once put him to death in the height of their fury; this he ſometimes effects; and this horrid tragedy, at the recital of which human nature is ready to ſhrink, is finally cloſed.

144. *Unreſerved Friendſhip, Funerals, &c.*] As the ſeverity of their temper, on theſe dreadful occaſions, ſeems unparalleled in the hiſtory of any other nation, ſo the enthuſiam of their friendſhip ſeems equally violent. They delight in their family and friends while they are living, and when they are removed by war or natural death, they regard their remains with friendſhip and affection: the loſs of one of their people is regarded by the whole town to which he belongs; no buſineſs, however important, is taken in hand; no rejoicing, however intereſting the occaſion, is heard, till they have performed their ceremonies in honour of the dead: theſe are executed with a great ſolemnity. The body is waſhed, anointed, and painted; it is followed by the whole village, with mourning and lamentation, to the grave, and there interred with the moſt pompous ornaments of the deceaſed. His bow and arrows, together with the things he moſt valued, and proviſions for the long journey they ſuppoſe he has to take, are placed by him in the grave. After the funeral, thoſe who are nearly allied to him, conceal themſelves a conſiderable time in their huts to indulge their grief. On theſe ſorrowful occaſions, their neighbours come to condole with the afflicted, and amuſe or cheer them with preſents. After ſome time, they reviſit the grave, they renew their lamentations, they cloathe the remains of the body in new ornaments, and repeat the ſolemnities of the firſt interment. Every eight or ten years they celebrate a feſtival, which they call the feaſt of the dead, or the feaſt of ſouls; the day is appointed in the public council; the wealth of the nation is exhauſted on the occaſion, and all the ingenuity of the Indians diſplayed; the neighbouring people are invited to partake of the feaſt, and to be witneſſes of the ſolemnity. The bodies of all thoſe who have died ſince the laſt feſtival, are now taken out of their graves; thoſe who have been interred at the greateſt diſtance, are diligently ſought for by their relations; who, far from being diſcouraged by their inſupportable ſtench, cleanſe them from the worms, and bring them on their ſhoulders through tireſome journeys of ſeveral days, without ſuffering any other emotions to ariſe, than thoſe of regret, for having loſt perſons who were ſo dear to them in their lives. When all the bodies are collected together, they are dreſſed in the fineſt ſkins they can procure; the feaſt is held, their greateſt actions are celebrated, and all the tender intercourſes that took place between them are recounted. A large pit is dug in the ground, and the bodies reinterred with pomp, with mourning, and with lamentation.

The Indians of America hold a future ſtate of exiſtence; they make an offering of their firſt fruits; ſome ſeem to hold in veneration the ſun and moon. They have their prieſts, their conjurers, their fortune-tellers, and doctors, who are regarded by the credulous, as poſſeſſed of ſupernatural powers. They regard dreams, and the ſinging and flying of birds, as omens of future events. Some tribes are peaceful and averſe to the bloody buſineſs of battles, others ſacrifice or devour their priſoners of war. Some derive much of their food from the waters, others principally feaſt upon veniſon; ſome wear ſkins of beaſts, ſome a kind of cloth which they make from cotton, and others hardly uſe any covering at all. Before they were viſited by the Europeans, their

their tools and arms were like thoſe of the South Sea iſlanders, with the addition of the bow and arrows; like the iſlanders alſo, ſome of them diſfigure their bodies, to make themſelves look fine; they bore the noſe, the lips, and cheeks; they draw down their ears to touch their ſhoulders, and by preſſure they deform the whole head.

SECTION XIV.

A general Deſcription of the People inhabiting the Lands round the North Pole; particularly the Natives of Greenland, and the Laplanders.

Having now completed an imaginary tour, round by far the greateſt part of the earth, and obſerved a variety of manners and of men; before we make our deſcent on the poliſhed nations of Europe, we may leſſen our airy flight, and ſweeping a ſmaller circle on the north, ſurvey the nations of little people that ſurround the Northern Pole.

145. *The People of the Arctic Regions.*] From Greenland, the moſt eaſtern part of North America, weſtward, round the globe, acroſs the northernmoſt wilds of America, Tartary, to the tracts of Lapland, which form the fartheſt parts of Europe, that are waſhed by the Frozen or Hyperborean Ocean, the people ſeem generally immerſed in the groſſeſt ſuperſtitions. To the regions beyond the grave, they transfer the employments which give them delight while here upon earth. There they imagine, in the abyſſes of the ſea, an elyſium of perpetual ſummer, of plenty of ſeals, rein-deer and wild fowl, that are to be hunted without toil, that are even already caught, and boiling in kettles ready for their repaſt; here, ſay they, the diligent and active whale-catchers, and hunters of ſeals, with thoſe that have been drowned in the ſea, or died in child-bed, enjoy a happy exiſtence; having firſt had to ſuffer in their paſſage to theſe delightful regions, for five whole days ſliding down a rugged rock, which has hereby been covered with blood and gore: others in thoſe lands of meteorous wonders, fancy paradiſe in the moon; the dances of ſportive ſouls, in the motions of the ſtreamers; and rain, the overflowings of the lakes where they fowl and fiſh. The ignes fatui they ſuppoſe to be torngaks or ſpirits, and beings of this ſort both benevolent and miſchievous, they ſuppoſe to inhabit the air, the waters, the cliffs of the rocks, the mountains, the winds, and even the things of that they eat. Their merriments and ſuperſtitious meetings are both accompanied with the ſound of a drum. They have many romantic tales of ſpectres and apparitions, or ghoſts; theſe the women relate to their children, and initiate them in the ſuperſtitions of their fathers. The ſun, moon, and ſtars, they believe to be living creatures; as men, women, rein-deer, dogs, bear-hunters, ſeal-catchers, &c. During an eclipſe of the moon, they carry cheſts and kettles on the top of the houſe, and rattle and beat

upon

upon them to frighten the moon back to it's place, who, they think goes about among the houſes to pilfer their ſkins and eatables, and to kill thoſe people who have not duly obſerved the rules of abſtinence. At an eclipſe of the ſun, the women pinch the dogs by the ears; if they cry, as they always do, they account it a ſure ſign that the end of the world is not yet come. When it thunders, they ſay, two women are ſtretching and flapping a dried ſeal ſkin, and the thunder comes from that rattle. They believe in witches, wizzards, and angekoks or conjurers; theſe pretend to take journeys or flights with familiar ſpirits, to the inviſible regions and abodes of ſouls, while they remain inactive and quiet before the credulous multitude, who are waiting their return in the dark; by and by they begin to ſtir and ſet up a cry; a light is made, and they ſeem pale and out of breath, as if fatigued with a journey. On the benedictions of theſe, and on ſtrange ſuperſtitious ceremonies they depend for good luck in their employments, and for recovery from their ſickneſs.

A people thus ſuperſtitious, it may well be ſuppoſed, would readily imagine ſomething ſupernatural in the ſuperior arts of the Europeans: in fact, when theſe read aloud to them, they could hardly be perſuaded but the reader muſt firſt hear a voice in the book; and it was a good while before they could be prevailed upon to carry a letter, it ſeemed ſuch a ſtrange and ſupernatural thing, that a ſcrolled paper could ſpeak to the perſon who recived it, and tell him what the writer wanted as well as they could do themſelves.

146. *Their Strength and Agility.*] The ſtrength and agility of body in this hardy little race, is aſtoniſhing; after enduring hunger for ſeveral days in their little kajaks or boats, they will ride out a ſtorm where a European boat could not live. The kajak is principally formed of laths and hoops, and covered with ſeal-ſkins both above and below; it is of the form of a weaver's ſhuttle, and ſix yards in length; in the middle is a hole, into which the Greenlander ſlips his feet and ſits down, he tucks the under part of his water-pelt, or great coat, round the rim or hoop at the hole, that the water cannot penetrate. He has his line coiled up before him, and his harpoons and lances at hand, which are very ingeniouſly contrived, and curiouſly made, for ſtriking the ſeals; but it is with his pautik or oar, that he navigates his little veſſel; this he lays hold of with both hands by the middle, and, with great regularity and quickneſs, ſtrikes the water on both ſides, and rows along with great velocity. He darts over the boiſterous billows like an arrow; if a wave break over him, he is preſently again ſkimming along the ſurface; if he be overturned, and his head be directly downwards, with a ſwing of his pautik he recovers his former ſtation; but if he loſe this, he is commonly loſt himſelf. It is on this trying occaſion he creeps out of his kajak, and cries aloud for help: if none be at hand to come to his aſſiſtance, he binds himſelf to his boat, that his body may be found and interred. Their umiaks, or women's boats, are ſimilarly formed, but large and open at top: theſe are rowed by the women, but the men in their kajaks at hand, ſhelter it from the greateſt waves, and in caſe of need, lay hold of the gunnel with their hands, to keep it on a balance. They coaſt along in theſe boats, voy-

ages

ages from two to four hundred leagues, with their furniture and ſubſtance, at the rate of twelve leagues a day. At every night's lodging they unload, pitch their tents, drag their boat aſhore, turn it upſide down, and load the beams, fore and aft, with ſtones, that the winds may not blow it away. If at any time the coaſt will not permit them to paſs, ſix or eight of them take the boat on their heads, and convey it over-land to a more favourable water.

Some of theſe nations ſhew uncommon agility in ſcowring over the incruſted ſnow on ſkates of deal or ribs of animals; with theſe they run down the beaſts of the chace; they even overtake the fleet deer; they ſcale the hills and ſlide down precipices. In theſe exerciſes they make uſe of a javelin or pike, and with this they kill the animals they purſue; even the women partake in theſe labours, and are themſelves ſo ſtrong, that one of them will carry a beam, which it would take two men of the more refined nations of Europe to lift from the ground. Yet hardy as theſe people are, and bold amid the dangers they have perpetually to encounter, in procuring their ſuſtenance, they have generally been accounted a timid race, incapable of being embodied as military troops. Indeed they ſeem ſo much attached to their own native ſnows, and their own native manners, they have very little idea that happineſs can be found in the lands or the purſuits of any nation but their own; and, if they ſhewed as much wiſdom in all their partialities, as they do in avoiding the horrid practice of war, we might certainly account them the wiſeſt and happieſt nations among mankind; but the ſtrange mixture of good and evil in their manners in ſocial life, renders their national character equivocal and undetermined.

147. *Houſes, Tents, and Feaſts.*] Theſe people change their habitations according to the ſeaſon, living in houſes in winter, in ſummer in tents. Their houſes are built with ſtones and ſods; theſe are roofed with beams and rafters, and ſmall wood between them, and over theſe are laid buſhes and turf, and fine earth on the top. They have neither door nor chimney; the uſe of both theſe is ſupplied by a vaulted paſſage, four or ſix yards long, entering the middle of the houſe in the front: this is ſo low that they muſt nearly creep on their hands and feet, eſpecially when they firſt ſtep down into the paſſage, either from within or without. The walls are hung on the inſide with old ſkins, to keep out the damp; the roof, on the outſide, is covered with them alſo. From the middle, all along one ſide of the houſe, there is a bench of boards raiſed about a foot high, and covered with ſkin: this is divided into ſmall apartments, reſembling horſes ſtalls, by ſkins ſtretching from the wall to the poſts that ſupport the roof in the middle; each family has a ſtall, and the number of families in one houſe, are from three to ten. On theſe floors they ſleep upon pelts, they alſo ſit on them; the men foremoſt, with their legs hanging down, carving their tackle and tools; the women behind them, minding their ſewing, theſe alſo cook their victuals. Oppoſite to them, on the front of the houſe, are windows, made of the inteſtines of ſeals, and of halibut's maws, and ſewed ſo neat and tight, that the wind and ſnow are kept out while the light is let in. A bench runs along under the windows, the whole length of the houſe; on which ſtrangers ſit and ſleep. By

every

every poſt there is a fire-place, of a curious and ſimple kind, for the uſe of each family: it is nothing more than a lamp hewn out of a kind of chalk or ſoft marble. They fill it with oil of ſeals, and uſe fine moſs inſtead of cotton; over this they boil their meat, in a ſort of kettle of the ſame ſubſtance with the lamp; over all they faſten a wooden rack, on which they lay their wet cloaths and boots to dry; and, during their dark and tedious winter, the lamps ſufficiently enlighten the houſe, and warm it very equally.

On the coming on of ſpring, when the ſnow begins to melt, and threatens to run through the roof, they move out of theſe huts, rejoicing to ſpend the ſummer in tents. Their tents are framed with poles, and covered with ſkins; the order of them is much the ſame as that of their houſes, but they are much more cleanly; and in theſe they endeavour to diſplay ſome finery and taſte. On occaſion of a viſit, the gueſts or viſitors are welcomed with ſinging, and preſented with a ſoft pelt to ſit upon; the men talk very gravely and conſiderately of the weather, of hunting and fiſhing; the women firſt mutually bewail their deceaſed relations with an harmonious howl, and then divert themſelves with little ſtories, mean while the horn with the ſnuff goes conſtantly round: when the banquet is brought in, the gueſts let the hoſt preſs them often; they pretend indifference about it, leſt they ſhould appear poor or half-ſtarved.

They prefer their fleſh and fiſh when quite putrid, and enrich their diſhes with train oil; and for a deſert they mix crow berries with the chyle taken out of the rein-deer. On theſe occaſions, the grand ſubject of their converſation, is their adventures in ſeal-catching. The left-hand perſonates the ſeal, and repreſents the various leaps the animal took this way or that: the right diſplays the motions and evolutions of their kajak and arm; how they extended their uplifted arm; how ſteadily they aimed, and how forcibly they impelled the fatal dart. If Europeans are preſent, they like to hear them relate ſomething of their country. When they are told that ſuch a city has ſo many inhabitants; that ſuch a number of whales would be required to feed them for one day; but that they not eat whales, but bread, that grows like graſs out of the ground, and the fleſh of divers creatures, ſome of which have horns; that they are alſo carried from place to place, either on the backs of very ſtrong beaſts, or in vehicles drawn by them; then they think they know it all, and accordingly, bread they call graſs, oxen, rein-deer, and horſes, huge dogs, for theſe are what draws them over the ice and ſnow. They admire all, and expreſs a deſire of living in ſuch a fine and fertile land; but their courage fails when they are told that it ſometimes thunders there, and that there are no ſeals to be caught.

148. *Manners Diverſe.*] Though ſeveral different families, with their children, of divers ages, live in one houſe together, they are ſo ſtill, circumſpect, and peaceful, ſcarcely any diſturbance is heard amongſt them. If a man return home with proviſion in the evening, eſpecially with a ſeal in winter, which are then ſcarce and hard to be caught, he gives a portion to the poor widows, and to all in the houſe, and invites ſome neighbours beſides to partake of their good cheer. Hoſpitality

pitality is practiſed all over the country, both towards their acquaintance and ſtrangers. Their children run about as quiet as lambs, and their fond attachment to their parents grows with their years; they are brought up without chaſtiſement, and treated on the footing of friends; if they are deſired to do any thing contrary to their minds, they ſay, without any ceremony, I will not; the parents put up with the refuſal till the children ſee their error. When a young man takes a wife, both himſelf and his bride are ſubject to his mother, as head of the houſehold affairs. They ſeldom tell an untruth knowingly, particularly when they are to ſhew a traveller the way; nay, they will rather go a piece with him. Cheating and ſtealing, and violent aſſaults, or high-way robberies, are but little known amongſt them. For ſuch people, a legiſlature might ſeem ſuperfluous; in fact, they are governed rather by manners than by laws; and their drum-dances ſupply every want of political inſtitutions; in them, theſe ſimple republics, perhaps older than Athens or Sparta, find an Areopagus, or Juſtice-hall; a gymnaſium or place of ſports, and a commercial fair for bartering their little wares. Beſides their drumming and dances, they play at ball by moon light; they have alſo games for trying one another's ſtrength or hardineſs: for inſtance, two competitors ſtrike one another ſucceſſively on the bare back with the fiſt, and he that holds out the longeſt is the conqueror. Again, they ſit down, and link legs and arms, or hook fingers together, and he who out-pulls the other is maſter; a diverſion almoſt as ſtrange, but not quite ſo dangerous, as the ſport of wreſtling, or the game of throwing one another down. But the method in their aſſemblies of ending diſputes between plaintiff and defendant, is the moſt ſtrange and extraordinary: if a Greenlander imagines himſelf injured by another, he betrays not the leaſt trace of vexation or wrath, but compoſes a ſatirical poem; this he repeats ſo often, with ſinging and dancing in the preſence of his domeſtics, and eſpecially women, that they get it in their memory; then he publiſhes a challenge, that he will fight his antagoniſt, not with a ſword, but with a ſong: the reſpondent betakes himſelf to the appointed place, and preſents himſelf in the incircled theatre: the accuſer begins to ſing his ſatire to the beat of the drum; his party in the auditory accompany him in the ſong, and back every line, with repeating in chorus the words Amna aiah; he thus expoſes the deeds of the aggreſſor, and the audience laugh aloud: the defendant then ſteps forth, anſwers the accuſation, and endeavours to ridicule his opponent, in like manner; all which is corroborated with the united chorus of his party, and the laugh changes ſides. In the ſame odd manner the plaintiff replies; the defendant rejoins; with the moſt cutting things they can think of, only there muſt be no mixture of rudeneſs or paſſion. The company at large conſtitute the jury; the victory is publicly declared; the delinquent endures the puniſhment of expoſure, and the parties become friends.

Theſe ſimple people do not like to contradict, interrupt, or outbawl one another in diſcourſe; they have not a ſingle word in their language, by which to utter abuſe or curſing. They laugh at the formalities and compliments of the Europeans; at a man's uncovering before his

his ſuperior in rank; and wonder, to ſee a maſter ſtrike or maltreat his ſervant. They diſcover not the leaſt trace of obſcenity in their converſation; and, on obſerving the foreigners immodeſt or prophane, they ſtood amazed, and knew not how to account for it, but by ſaying: "theſe people have loſt their underſtanding, the mad waters," i. e. the ſtrong liquors, "have made them inſane." So amiable appear theſe people, amidſt their darkneſs and ſuperſtitions, when we ſurvey them in the moſt favourable point of view. On the other hand, there are many exceptions to this general deſcription.

It ſometimes happens, that when the father of a family dies, the poor forlorn widow has no near relations, ſhe lies on the ground with her children about her, bewailing the loſs of her huſband, almoſt to diſtraction; gueſts of an evil deſcription, pretend to condole and ſympathiſe with her in her afflictions, but at the ſame time, clandeſtinely bear away the effects of her late huſband; ſhe perhaps endeavours to ingratiate herſelf with her greateſt plunderer: he has a right to maintain her according to the uſages of the place; but when he is tired of her, ſhe and her children are again left helpleſs. If none want ſervants, or be diſpoſed to protect them a little longer, perhaps, they protract life, by eating fiſhes, muſcles and ſea graſs; but finally, they muſt ſtarve or be frozen to death, having neither cloathing nor lamp-oil. If the orphans ſurvive, perhaps they are unfurniſhed with a kajak, and what is ſtill more unpromiſing, they are uninſtructed in the difficult buſineſs of managing them; they muſt ſtay on ſhore and join in the drudgeries of the women. If people on ſhore ſee a kajak overſet at ſea, and the poor man has no relation, nor has particularly ſerved them, they behold with inſenſibility, nay, with a certain entertainment, how he ſtruggles in vain to ſave himſelf; it is too much trouble to ſtep into their kajak, and haſten to his help; and ſhould they be incommoded with the ſhrieks and cries of their female relations, they ſlip away.

The ſpirit of revenge ſeems to be as ſtrong in theſe people as in the other American Indians; like them, alſo, they keep their dreadful reſolutions inviolably ſecret, till an opportunity offers of wreaking their vengeance on thoſe that have offended them; and their enmities are conveyed down to their children and grand-children. When a murder is committed, the aſſaſſin generally perpetrates the deed at ſea, in a treacherous manner, by overſetting the Greenlander in his kajak and drowning him, or by throwing a harpoon into his back behind. If the friends of the murdered man diſcover the aſſaſſin, they ſtifle their anger, nay, they do not ſo much as let a word about it tranſpire, for fear that he or his ſpies and accomplices might diſpatch them too, to ſecure himſelf; yet they will not forget to avenge their friend's death, when they meet the murderer alone, even though thirty years ſhould elapſe before they can effect it. They generally attack him on ſhore, declare the reaſon in a few words, then ſtone or run him through, and caſt his body into the ſea; or if they are very much provoked, they hew him to pieces, and ſwallow a bit of his heart or liver, becauſe they think his relations will by that means loſe their courage to fall upon them. Some poor creatures, for the ſake of procuring themſelves

ſelves reſpect, or a livelihood among the people, pretend to the power of witchcraft; ſometimes, however, they are blamed for having bewitched ſome perſon that has died, on this occaſion the country will join to ſtone them, and they are thrown into the ſea, or hewn to pieces. Sometimes, when ſuch poor wretches find there is no poſſibility of eſcaping, they plunge themſelves into the ocean, to elude the weapons that would hew them in pieces, and leave their diſmembered carcaſe a prey to the ravens. However, if the perſon cut off leave any near relations, they endeavour to avenge the death; and thus the tragedy is continued in a prolonged ſeries of murders.

Polygamy is not very common among them, yet ſome have more than one wife. When the women cannot be prevailed upon to marry by kind and courteous perſuaſions, they are compelled to it by force, and ſometimes by blows. The matrimonial contract is not ſo irrevocable with them, but the man may put away his wife, eſpecially if ſhe has no children: this he does with little ceremony, he only gives her a ſour look, marches forth, and does not return again for ſeveral days; ſhe perceives his meaning directly, packs up her cloaths, and removes to her own friends. The women before marriage, are ſqueamiſhly ſhy: they would account it an affront or an injury in company, if a young fellow were only to offer them a pinch of ſnuff. The women that are repudiated, or divorced, from their huſbands, ſometimes turn proſtitutes; and, as for the married people, ſome are ſo ſhameleſs that, if they can, they break the matrimonial obligation on both ſides without a bluſh. When a mother dies and leaves a helpleſs babe behind her, if the father have no one to nurſe it, he cannot endure to ſee the infant's diſtreſs; he buries it alive along with it's mother; they are wrapped up in ſkins, carried to ſome high place, and covered with broad ſtones, to keep off the birds and foxes: thoſe alſo that become old and infirm, and have not friends to ſupport them, are treated like the infant. Though they are generally honeſt among themſelves, the indigent and lazy are ſometimes on the watch for ſtealing, eſpecially from unknown travellers; but if they can rob a foreigner, either by craft or force, they glory in the fact, as a mark of their ſuperior abilities; therefore, the Europeans place no great confidence in them, becauſe they have been cheated by them many times; nay, have been decoyed aſhore, and then baſely robbed of their goods, and even murdered. Thus gloomy are the ſhades in the ſketch of theſe people.

149. *Tartars, Laplanders.*] What has here been related, is peculiarly applicable to Greenland; the other Americans, and the Tartars of Aſia, however, who inhabit the ſame high latitudes, are, from their ſimilar ſituations, put upon the ſame habits and manners of life; to procure themſelves ſubſiſtence, they muſt neceſſarily be hunters, fiſhers, or fowlers; and in winter, they muſt betake themſelves to their cloſe and warm houſes: from the little that we know of them, their conceptions or ſuperſtitions ſeem even groſſer than thoſe of the Greenlanders. But of all theſe nations of little people, the Laplanders appear the happieſt, moſt provident, and moſt improved in the arts of life. The rein-deer, which the other thoughtleſs people have only ſought to hunt and kill for immediate uſe, the Laplander has wiſely reduced

reduced to domeſtication and ſervitude; and, in theſe creatures alone, he finds almoſt every thing his ſimple wants require; they feed him, they cloath him; with their ſkins he covers his tent, and of their ſkins he makes his bed; of theſe he makes his ſnow-ſhoes, and with theſe his ſledge is ſhod; of their milk he makes cheeſes, and puts the whey to immediate uſe, or boils it with wood of ſorrel till it coagulates, and then keeps it under ground, in caſks, or deer-ſkins, to be uſed as a delicacy in winter; he preſerves alſo the blood to mix with the marrow as a ſauce in ſpring; even their inteſtines, when dreſſed and boiled, make him a diſh he highly eſteems: he converts almoſt every part of this valuable creature to ſome uſe or other; their ſinews make him bow-ſtrings, ſprings for catching birds, and threads for ſewing; their horns he ſells to be converted into glue; their ſkins alſo, and their tongues, which are accounted a great delicacy, are ſent to the ſouthern parts of Europe, and procure him foreign toys and luxuries: this is not all, the rein-deer carries him in his journeys; it is yoked to the ſledge, which is extremely light, by means of a ſtrap, which goes round it's neck, and comes between it's legs; the man guides the animal with a cord, which he faſtens round the horns, and encourages it to proceed with his voice, and drives it with a goad. Some of the wild breed, by far the ſtrongeſt, are found refractory, and often turn upon their drivers, who have then no other reſource but to cover themſelves with their ſledge, and let the animal vent his fury upon that; but it is otherwiſe with thoſe that are tame; no creature can be more active, patient, and willing; when hard puſhed, they will trot nine or ten Swediſh miles, or between fifty and ſixty Engliſh miles at one ſtretch; but, in ſuch a caſe, the poor obedient creature fatigues itſelf to death; and, if not prevented by the Laplander, who kills it immediately, it would die a day or two after. In general they can go about thirty miles without halting, and this without any great, or dangerous efforts. The food which this faithful domeſtic lives upon is moſs; and, while his fields are cloathed with this, the Laplander envies neither the fertility nor the verdure of the ſouthern landſcape. Wrapt up warm in his deer-ſkins, he defies the ſeverity of his native climate; and, in the midſt of ſnows, fearleſs, and at his eaſe, he drives his herds along the deſert, and calmly ſubſiſts where another would periſh: his hardy cattle too, root up the frugal but favourite fare from under the white deluge, while his faithful dog prevents them from wandering. Caravans of theſe ſimple people diverſify their long and tedious winter in excurſions to the Finland fairs; and, on the return of ſummer, in their own land of fowls, they indiſcriminately prepare for thoſe exerciſes of the field, which, in our lands of liberty, are, by law, appropriated only to the man of wealth, but which, in theirs, ſupply plenty and variety to their tables for one quarter of the year.

SECTION XV.

A View of the Manners, &c. of the People of Europe, with a Compariſon between London and the country Parts of Ireland.

We may now come home to the poliſhed nations of Europe, which is by far the leaſt quarter of the globe. It's nations have now, for more than two thouſand years, cut the greateſt figure in the annals of mankind; it's lands alſo bore the flattering title of Chriſtendom, when Mahomet and his enthuſiaſts, had ſpread their ravages and their doctrines over the nations which firſt heard the Chriſtian name.

To attempt to exhibit the nations of Europe, and their varied manners in one general ſketch, may appear prepoſterous and vain; however, it is but conſiſtent with the preſent deſign to attempt the deſcription; and, as wonder-ſtricken travellers have generally furniſhed the ſcenery of the views we have already taken of the other parts of the earth, it ſhould ſeem eſſential, in order to impartiality, that we ſhould thoroughly diveſt ourſelves of national habits and prejudices; nay, in fact, become as ſtrangers, ready to admire and gaze upon every thing as new, while we ſurvey the manners of theſe renowned nations.

Leaving, therefore, on the eaſt the followers of Mahomet, the Othman race, or Turks, of Aſiatic dreſs, extraction, and manners, the Europeans ſeem ſtrikingly diſtinguiſhed from the reſt of the world, in their advances in arts, ſcience, and commerce, and in their nationally profeſſing Chriſtianity. Their profeſſion and their improvements, together with colonies of themſelves, they have diſſeminated to all the different quarters of the globe: thus, acquainted with the peaceful and benevolent doctrines of the Chriſtian religion, and in poſſeſſion of arts, which enable them to elude many of the calamities to which improvident, and leſs improved nations are often expoſed: how peaceful, how refined, how happy, may we ſuppoſe this diſtinguiſhed race of the ſons of Adam to be, above the reſt of mankind! The nations of Europe, however, on an impartial ſurvey, will be found in their manners of life, and in their enjoyments, much like other men.

150. *Arts and Sciences, Manners, &c.*] If we ſweep round their coaſts, we ſhall find their ports crowded with veſſels, and the produce and luxuries of every climate upon earth landing on their quays. Aſhore are heard the hammer and the axe of the mechanic, and, in the fields, the voice of the huſbandman. Water, air, and fire are called upon to impel their maſſive machines, their engines, or mills, and alleviate their labours; while the ſmaller works of the handicraft, the artiſt, and man of letters, ſupply many little conveniences and elegancies, never dreamt of among nations unacquainted with nice arts. That little inſtrument, the watch, which he carries about him, informs

forms the European how time is going on; by the help of printing he can have in his pocket records of ſcience unknown to the learned philoſophers of the ancients; by this he learns what is going on in every quarter of the globe; and, in fine, he dips his pen, and converſes with his abſent friends, though widely diſperſed over the face of the earth.

The Europeans generally begin their week by devoting the firſt day to public worſhip; other ſeaſons are alſo appointed for ſimilar purpoſes; the ſeventh day cloſes their labours, and their week is done. As aſylums for the weak and helpleſs, the ſick and the poor, they erect buildings like palaces, and liberally endow them; or they ſupport them by frequent charitable contributions: yet, among theſe very people, evils exiſt as in other parts of the world. As firſt on the liſt, we may reckon the horrid practice of war, with the ills it induces: the nations of Europe, though profeſſing to be Chriſtians, quarrel with each other, and decide their diſputes by force of arms; though there are but, comparatively, few immediately engaged in this bloody buſineſs, yet the evil ſpreads far; individuals, remote from the field of battle, talk over it's tumults and carnage unconcernedly; or, partial to the arms of their own particular nation, or their own particular party, with a degree of enthuſiaſm, rejoice in their ſucceſs, and wiſh deſtruction to thoſe who oppoſe them.

In Europe there are gaols crowded with criminals, and on theſe are inflicted the puniſhment of whips, racks, gibbets, and fire; nor have theſe ſeverities been confined to thoſe who have become peſts of ſociety, the innocent and the faithful have alſo endured them for the ſake of a good conſcience. In Europe, notwithſtanding it's inhabitants are ſo improved, there are many of them ſuffer poverty, and ſome die through want: if their improvements were confined to the good of ſociety, ſurely many of theſe evils would hardly be known; but they have formed themſelves unreal and artificial wants, and, for the ſupplying of theſe, ſociety is oppreſſed. It is far beyond the deſign of the preſent undertaking to attempt a catalogue of the luxuries and ſuperfluities of the nations of Europe. It may certainly be accounted an evil, if theſe take hands from uſeful labour; and that they do, may appear evident, if we but look about us. It is a common-place argument in favour of ſuperfluities, that the luxuries of the rich give employment to the poor; but if theſe vanities had not a tendency to corrupt our minds, and to mark out diſtinctions which flatter pride, the bane of human kind; if they even did not naturally produce theſe evils; let the uſeleſs attendance beſtowed on the wealthy be but given to the labours of the plough, or loom; can any thing be more evident than that, under Providence, the good things of this life would more plentifully abound, and the oppreſſion of the poor be conſiderably alleviated? In fact, it appears, wherever the Europeans have ſcattered deſolation and wretchedneſs about them, it has been from motives of avarice, or for the gratification of unreal wants.

Deſpairing of delineating, with any degree of accuracy, the diſtracted, various, or complicated ſcene which Europe exhibits, we may cloſe this very ſhort ſketch by a few remarks that naturally offer themſelves,

ſelves, and which, if they be juſt, muſt neceſſarily be intereſting. While it requires but little diſcernment to ſee the miſconduct of the tyrants of the earth, who ſacrifice the peace of ſociety, for their own gratifications, or for their aggrandizement, the tyranny of cuſtom or of faſhion is often more oppreſſive, though, thoughtleſs or unconcerned, we paſs along inſenſible of it's influence, and unconſcious of it's preſence. In reading of the unlimited power of deſpots in countries that are diſtant, or in ages that are paſt, and in conſidering the ſtate of Europe during the feudal times, when the diviſion of the people was into barons or gentlemen, and vaſſals or villains, the manners of the preſent day ſeem gentle and humane in the compariſon; we ſeem to feel relief in contemplating the preſent ſyſtem of things, and are induced to admire commerce, which has reduced the ariſtocrats to a degree of inſignificance, and raiſed the plebeians. Commerce has raiſed the latter to the higheſt ſtations in ſociety, while the others have gradually dwindled away. But has the happineſs of mankind been hereby promoted! perhaps, with all the reforms it has introduced, the accompanying evils have nearly preponderated.

The wealthy merchants often equal in extravagance the barons of the feudal times, and, they ſeem, from their manner of life, to acquire diſpoſitions leſs hoſpitable. The barons obtained their poſſeſſions by inheritance; the merchants, by rapacity, or by the continued, earneſt purſuit of gain; perhaps ſtriving through a long ſeries of years, to underſell competitors, and, in conſequence of this, bearing hard upon the workmen, and keeping down their wages as much as poſſible. The barons ſpent moſt of their time at their caſtles or manſions, and their horſes and ſervants, except on ſtate days, were employed on huſbandry. The commercial ariſtocracy is engaged in a continual routine of extravagance, and their horſes and ſervants, ſeem only to live for their accommodation, or for the gratification of their vanity.

In the feudal times, each man took a fixed ſtation, and was at reſt: he had no power of advancing himſelf or his family, if he were poor; if rich he muſt continue ſo, as he had not the privilege of diſpoſing of his eſtates. Now the incentives to action are perpetual: and there ſeems to be no end to the reſtleſſneſs produced; all appear to be puſhed on by an inſatiable thirſt for gain. From all the ſituations in ſociety, between the higheſt and the loweſt in wealth and power, the people look down on thoſe whom they account their inferiors; they cringe to thoſe who are above them.

According to the faſhion of the preſent day, it is reputable for a man to live according to his means, not according to his neceſſities; and indeed, he is often reſpected in proportion to his extravagance. From the higheſt to the loweſt, we ſeem to be tyrants and ſlaves; and, in our mutual intercourſe, under ſo depraved a ſyſtem, we corrupt and are corrupted. The laws of the country, and the prejudices of the people, even our language, manner of dreſs, and all our ceremonious habits, tend to keep up the evil.

By the luxurious and extravagant manner of life, which it is the faſhion of the preſent day to conſider reputable, ſociety is oppreſſed,

and

and the ſocial virtues are deſtroyed: but, chiefly, the affections of love are chilled in their infancy, are nipped in the bud. How few are there, that have entered into matrimony, who can ſay, that their firſt movements towards that ſtate were made without embarraſſment! and can things be upon a right footing while this continues to be the caſe? According to the preſent corrupt ſyſtem of things, it is diſreputable for the women to declare their affections for the men. How dreadful in it's conſequences is this grievous yoke of tyranny, this galling chain of faſhion! They muſt even diſſimulate when applied to; and the officiouſneſs of ſelfiſh parents and relations, (for the affectionate relatives and friends, who feel moſt anxious and tender ſolicitude, and offer counſel on theſe very intereſting occaſions, cannot be included under the epithet of ſelfiſh) the airs which they aſſume, are enough to damp the ardour of a baſhful youth. We know, we have felt, that the Supreme Being permits us the exerciſe of will, does not drag us with coercive chains, points out to us what is right, and would enable us to follow it, if we would but ſubmit: but parents often aſſume a power greater than that which the Creator exerciſes over us. In the ſtate of childhood they uſe ſtripes, and in that of mature age, reſtraints. Thus, from the cradle to the grave, we are in a ſtate of bondage; for when, at laſt, we come to act for ourſelves, and through all the ſucceeding years of life, we feel ourſelves fettered with the trammels of faſhion. We are ſuch creatures of art, our native genius and temper are ſo diſtorted and warped by education or manners, they are diſguiſed to the world, they are hidden from ourſelves.

It is uſually aſſerted that Chriſtianity is the religion of Europe. It's inhabitants generally call themſelves by this name; but, if we could entirely diveſt ourſelves of prejudice, might we not ſee, might we not lament, that we fall grievouſly ſhort of the true principle of Chriſtianity? The eſteem of man is generally the object of our purſuit, the conſciouſneſs of his preſence is the awe-impreſſing principle which directs and guides us; the expectation of his notice, the grand ſtimulus, or motive of action. Oh for relief from this ſlaviſh and corrupting principle! this diſtracter of ſociety! this tormenter of individuals!— Oh that we could ſee in every man a fellow, an equal; that we could ſincerely, and heartily, be conſcious, that no man was our ſuperior.

It is curious to obſerve the different effects of light, in certain circumſtances, on the ſpirits of animals. The remark may provoke a ſmile in ſome, as inſignificant, or, perhaps, ludicrous, but cannot fail to be intereſting to the compaſſionate mind, and it is not entirely foreign to our preſent ſubject. The feeble tribes of animated creatures, and thoſe whoſe enemies are numerous, appear to regard the light with different feelings, according to their different habits of evaſion. The fleet creatures, which uſually find ſafety in flight, as the feathered tribes and winged inſects, and the animals which are ſwift of foot, ruſh into open day, or make for the greateſt light, when attacked or alarmed; while thoſe which find refuge in darkſome receſſes, as the vermin and reptiles, and inſects without wings, as naturally turn their eyes from the light, and make for the wall, or for holes,

or retreats. These latter effects seem hardly less striking, in large cities, which are altogether scenes of art, on the feelings of man. If he cross the threshold of the door, if he step out into the street, in any thing like deshabille, or under any unusual appearance, he is no longer the same man that he was in his parlour: there the sloven, or the newly-molten creature, sat at his ease: coming into the street, he feels conscious of the presence of the people; he feels their eyes to be upon him; he is ready to shrink within himself, if he appear under any tattered form, or if he have even put on new finery, unless in the latter instance, he swells or rises in self-complacency: these are habits impressed on us from our infancy.

While the manners, already described, are, in general, destructive of the harmony of society, the consequences seem most grievous in the restraints hereby imposed on the sexes. It is curious, but afflictive, to observe how, by the perverse system, or the wrong estimation of things, the objects which are, or ought to be, of smaller moment, are preferred to those of greater concern. What judgment is shewn (and it is not to be censured, perhaps the exercise of it is commendable) in the conducting of business! How well the trader will judge of the advantage of certain situations, of the methods of inducing customers to call on him! He feels himself happy in having his family about him, but he little considers, perhaps, that he is growing old, and cannot stay with them long.

But, in the present order of things, how shall the obstacles which lie in the way of marriage be removed? Prejudices cannot be done away at once; we cannot but, in some degree, accommodate ourselves to them. Shall the parent endeavour to get off the children like articles of trade? If he see a youth, whom he esteems and loves, and would wish to call him by the name of son; if he manifest that wish, the youth must have superior judgment and virtue, if he do not turn away from such a hint with dislike; such a wreck of good sense and good manners has taken place in this quarter of the earth! Perhaps there is nothing so well adapted to do away these evils, these desolating evils, as the promotion of hospitality, of fellowship, or good neighbourhood. If parents heartily encouraged this, if they were but more willing to sacrifice the mammon of unrighteousness to the duties and the gratifications of social life, the children would naturally become fond of each other in their early and innocent diversions, and, in the blooming season of youth, would affectionately and piously enter into the solicitudes and pleasures of married life, instead of waiting till the tender feelings of love were obtused or destroyed, by the multiplied cares and toils which attach themselves to our complicated manner of life, and the man takes the woman upon a dead calculation of profit and loss. Were parents but hospitable or social, it would follow, as a consequence, that mankind would increase and multiply, instead of the present unnatural system of celibacy prevailing.

This is not mere declamation unfounded on fact. To prove the assertion, let us just glance on the most opposite views of society which these countries afford. In the two islands on the west of Europe, where that language is spoken which is now before the reader, there

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is a very great diſparity in the condition of the inhabitants; their manners alſo differ. In the capital of England we ſee a prodigious exhibition of wealth. London ſeems to anſwer the deſcription of Tyre in antiquity: ſhe ſits a queen on the waters, her merchants are the great ones of the earth. Notwithſtanding the myriads of the inhabitants, there ſeems to be enough of proviſion for the whole; if it were fairly diſtributed, enough and to ſpare. Yet, here, from the iſolating policy which prevails, cauſing each family to live only to itſelf, the humaniſing buſineſs of marriage goes very ſlowly forward, and the number of the inhabitants is kept up by a continual influx of people from other parts. In the parlours, the children are kept up like nuns or friars; and, in the kitchens, the ſervants. In the country parts of Ireland, where the people ſeem to be the moſt neglected, or the moſt oppreſſed, where they have their little farms at rack-rent, where they find it difficult to live, and where a pampered Londoner might nearly ſtarve, there, from their ſocial diſpoſitions, and hoſpitable manners, marriage is much encouraged, and early entered into. In caſting our eyes over the Hibernian landſcape, we are ſtruck with the idea of an unimproved, or neglected ſtate of agriculture. The cabins, or cottages, ſcattered over the country, or huddled together in an irregular way, do not impreſs us with a notion of the elegancies of life, hardly allow us to think that their inhabitants enjoy the common accommodations of it. We are ready to ſay, how is it to be accounted for, that Ireland, an '*officina gentium*,' ſupplies ſo many inhabitants to other countries? The ſcene before us has the appearance of a country but very thinly inhabited. But when we ſee how the cabins are peopled, the ſwarms of children at their play, the rows of lads and laſſes in the fields, with their ſhovels, turning up the ſoil, and depoſiting their favourite food, the potatoes, or caſting up the turf from the bogs for fuel, when we ſee them returning from their chapels in crowds, and loitering away the afternoon of the day of reſt in companies, or enduring a greater portion of fatigue at their ſports, than that of their ordinary labour through the week, we ſee that the people are ſociable, and early marriage is hereby promoted.

If they ſuffer by the extortion of under-landlords, at a diſtance from the real owner, the abſentee, who does not vouchſafe to take the trouble of knowing their ſituation; if they have various other oppreſſors, at leaſt the ſyſtem of equality prevails among themſelves. Tyranny is not extended here, as in commercial cities, through numerous orders of, men oppreſſing and oppreſſed: they are fellow partakers of the ſame hard lot in life; but they are equal, they are happy. They are alſo hoſpitable to ſtrangers; by ſalutations, benedictions, and friendly and officious enquiries and ſervices, they welcome the coming gueſt; and it ſeems to be their delight to help the traveller along his way.

Beſides the obſtacles already mentioned, which lie in the way of marriage, the unſocial cuſtom that prevails, of young ones ſeparating from the parent family on marriage, ſeems to be a very great impediment. It is well known that the preſent ſyſtem of ſociety is ſo complicated, that it requires no ſmall degree of ſkill and exertion, or, we

may truly ſay, of craft, to fill almoſt any ſtation in life, yet it is expected that the youth ſhall be poſſeſſed of ſuch accompliſhments before he enter upon marriage. Now he can hardly acquire the addreſs to carry himſelf with ſufficient ſkill and prudence till he have attained many years; and, in the mean time, if he be not married, it is probable that he may loſe thoſe tender feelings neceſſary to that ſtate, and the covenant may hereby become a bargain little different from proſtitution. Would it not be better, more natural, more rational, for a young couple to abide in a parent's houſe, till their children, becoming numerous, they ſhould have occaſion for more room? Then they might take a houſe, and fill it, and both father and mother, perhaps, find aſſiſtants in their children. How much more beautiful would be the ſight of a young family going off to form a new hive, than the preſent cheerleſs way of the lone couple, if we may uſe the expreſſion, ſetting off into an empty houſe, to take upon them the new-fangled and important airs, or manners, which they are to practiſe, when ſet up to ſee company; but when it would be yet eaſier, more congenial to their feelings, and more productive of their happineſs, to mingle with their younger brethren and ſiſters, and, after a while, with their own little ones, who might hereby eſcape ſtripes, while the young parents eſcaped reſtraints; eſcaped, till more advanced age at leaſt, the trammels of diſtorted faſhion, and the toils neceſſary to keep them up. Moreover, the aged people would hereby be ſolaced with the company of their little grand-children, would tend them with delight, and would watch their little wants, and meet their wiſhes more ſolicitouſly than even the parents themſelves. Is not the ſuperior fondneſs that they ſhew for the little ones the language of nature; and does it not ſhew, in unequivocal characters, that the preſent ſyſtem of things is diſtorted and unnatural?

But it is time to cloſe the ſketch of this wretched quarter of the earth, where every thing is bought and ſold; where the teacher ſells inſtruction, the phyſician ſells health; where juſtice, or rather law, is an article of trade, and even information of the way to heaven, and recommendations and paſſports thither are profeſſed to be ſold.

Here alſo the author, impelled by his humour, or preſſed by his wants, gathers materials together, and takes upon him to make a book: he ventures, perhaps, as in the preſent inſtance, to deſcant on the manners of mankind. Agitated between truth and prejudice, between ſincerity and complaiſance, with trembling hand, he commits himſelf to paper, to the criticiſm of the public, to be praiſed where he does not deſerve it, to be cenſured where he was not in fault. It is in vain that he looks for a tribunal, appointed by that public, which might timely ſuppreſs the uſeleſs or the hurtful, and ſave the thouſands that loſs of time which it takes them to determine on the writer, or his method; and which might bury the name of the author in oblivion, if it permitted his work to go down to poſterity, till they ſuppreſſed it to make room for others. What has any age to do with the names of thoſe who are paſſed away? or, indeed, with the names of it's cotemporaries, except in private life: even the patriot, who is truly ſo, would be more conſoled from the conſciouſneſs of integrity, than from the

the praiſe of his fellow-citizens. The man of the public ought only to bear an official name in his public ſervices, and the author ſhould be concealed from the public eye; the tribunal of ſcience ſhould only be accountable for his work. It ought not to appear without their permiſſion. But the author, in the preſent ſyſtem of things, whether he have the diſpoſition of Heraclitus, Democritus, Ariſtophanes, or Diogenes, may gratify it; he may weep, laugh, ſneer, or ſnarl, and provoke, if he can, theſe paſſions in his readers; and, finally, he may do it without being at all accountable for it; without giving up his name, though he have no tribunal to acknowledge his work.

Such are the liberties taken, particularly, by the Reviewers. Their hidden ſecrecies, at their pleaſure, by neglect, by cenſure, or by praiſe, diſpenſe regrets or gratifications to the writers or their friends, and, for want of a better order of things in ſociety, we are induced to read their anonymous productions: indeed (to ſpeak *en cynique*) it is, perhaps, better that they are permitted to exerciſe their vein, as matters yet ſtand: perhaps, like the principle of putrefaction in certain bodies, they are making a ſtir, to produce, in their own wreck, a renovation of things: till then we ſhall ſee no authority which can properly interrupt literary labours; till then the liberty of the preſs, however it may be abuſed, can only be checked or deſtroyed by an act of injuſtice.

151. *Remarks and Reflections.*] Having now taken a general, though very ſlight ſurvey of the nations of the earth, as they occurred in our imaginary tour round the globe, we may again ſet out, in a ſimilar way, and, as we paſs along, take a proſpect of the lower orders of the creation, as variouſly diverſified in the different regions of the earth; however, before we quit this moſt important part of geography, the deſcription of the human race, a few reflections, that naturally preſent themſelves, may, perhaps, here appear becoming, rather than ſuperfluous and impertinent. We have already ſeen, in the accounts that travellers have furniſhed, that there has no nation run ſo wild, but it's hiſtory generally affords alſo a view of ſomething that is amiable, in the midſt of all it's rudeneſs and ſuperſtitions; and were wonder-ſtricken travellers ſtill better acquainted with the manners of the people they have deſcribed, and were they more diveſted of national prejudices, we ſhould likely ſtill hear more of what is agreeable. On the other hand, we may find many evils prevail among nations which make the higheſt religious profeſſion, and which are generally accounted the moſt civilized; what delicacy then does it require to deſcribe the manners of men, or to draw national characters! and how carefully ought we to remember, that *general deſcriptions can never be univerſally applied.* In every nation there appear happy exceptions to barbarous and unbecoming cuſtoms; among every people woeful declenſions from manners that are virtuous, and principles that are ſublime.

SECTION

SECTION XVI.

Different Appearances of the Earth, in different Climates; Diverſity of Animals, their Manners, &c.

We may now ſurvey the lower orders of the creation, as they are variouſly diverſified in the ſeveral quarters of the globe; and, as man is highly intereſted in theſe, we may often obſerve him in a conſpicuous point of view, in the varied picture; we may ſee how his habits and manners are often influenced by his particular ſituation; how he avails himſelf of the advantages it affords him; and how he evades the inconveniences to which it expoſes him; and ſomething ſimilar may ſometimes be obſerved in our humble partners in the creation, the beaſts and birds. As the different parts of our terreſtrial ball receive the rays of the ſun in various directions, and conſequently it's heat in very different proportions, they accordingly put on very different appearances; a polar proſpect, and a landſcape at the equator, are as oppoſite in their appearances, as in their ſituations.

152. *Polar Regions.*] The polar regions, that receive the ſolar beams in a very oblique direction, and that continue for one half of the year in night, preſent a picture bleak and hideous. The ground, which is rocky and barren, rears itſelf in lofty mountains and inacceſſible cliffs, and meets the mariner's eye at even forty leagues from ſhore; theſe precipices, frightful in themſelves, receive an additional horror from being conſtantly covered with ice and ſnow, which daily ſeem to accumulate, and to fill all the valleys with increaſing deſolation; the few rocks and cliffs that are bare of ſnow, look, at a diſtance, of a dark brown colour, and quite naked; upon a nearer approach, however, they are found replete with many different veins of coloured ſtone, and here and there ſpread over with a little earth, and a ſcanty portion of graſs and heath. The internal parts of the country are ſtill more deſolate and deterring. In wandering this ſolitude, ſome plains appear to be covered with ice, that, at firſt glance, ſeem to promiſe the traveller an eaſy journey; but theſe are even more formidable, and more unpaſſable than the mountains themſelves, being cleft with dreadful chaſms, and every where abounding with pits, that threaten certain deſtruction.

The ſeas, that ſurround theſe inhoſpitable coaſts, are ſtill more aſtoniſhing, being covered with flakes of floating ice, that ſpread like extenſive fields, or that riſe out of the water like enormous mountains; theſe, which are compoſed of materials as clear and tranſparent as glaſs, exhibit a variety of colours, and aſſume many ſtrange, phantaſtic, dazzling, and ſometimes dreadful appearances. Some look like large iſlands, with plains, valleys, and hills, which often

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rear their heads, more than a thouſand feet above the level of the ſea, and ſink three hundred fathom under water. Some look like arches, rocks, caſtles, towers, and ſpires, and theſe floating about give the whole ſcene the appearance of enchantment and illuſion. Some look like ſhips in full ſail, and people have often given themſelves the fruitleſs toil to attempt piloting the imaginary veſſel into harbour: this may appear incredible, but when it is conſidered, that the ſhips in theſe ſeas, rigging and all, are ſometimes all over incruſted with ice, we may better account for ſo extraordinary a miſtake.

In the Arctic Regions, the meteors are alſo ſeen under a thouſand ſtrange and romantic appearances, aſtoniſhing to travellers, though, from their frequency, diſregarded by the natives. "Nothing more ſurpriſed me, or entertained my fancy more," ſays David Crants, in his hiſtory of Greenland, "than when on a fine, warm, ſerene ſummer's day, the Hookoernen, or the iſlands that lie four leagues weſt of Good Hope, preſented a quite different view, from what they have naturally. We not only ſaw them far greater, as through a magnifying perſpective glaſs, and plainly deſcried all the ſtones, and the furrows filled with ice, as if we ſtood cloſe by; but when that had laſted a while, they all looked as if they were but one contiguous land, and repreſented a wood or tall cut hedge; then the ſcene ſhifts, and ſhows the appearance of all ſorts of curious figures: as ſhips with ſails, ſtreamers, and flags, antique elevated caſtles, with decayed turrets, ſtork's neſts, and a hundred ſuch things, which at length retire aloft or diſtant, and then vaniſh; commonly a couple of hours afterwards a gentle weſt wind, and a viſible miſt follow, which put an end to this *luſus naturæ*." This illuſion ſeems to proceed from compreſt and ſubtle vapours, intervening between the objects and the eye, and acting like different lenſes or glaſſes.

It is, perhaps, owing to theſe different vapours, that the coaſts of Greenland, which are not themſelves enormouſly high, are ſeen to the amazing diſtance, ſailors ſay, of near ſixty leagues; they are at firſt ſeen as if raiſed in the ſky conſiderably above the horizon, as they are approached; they appear to lower by degrees, and ſettle in the water. In the polar regions, the froſt often makes the ſea ſmoke like an oven: when the miſt congeals in the cold air, the ſubtle, icy ſpicula may be diſcerned like fine needles, or glittering atoms: it ſeems to be condenſed miſts or clouds of this kind, that reflect back the images of things on earth, like mirrors, and under the name of the blink of the ice, give notice to the mariner at a conſiderable diſtance, by gliſtening, that the ice lies below, when otherwiſe he might have daſhed his veſſel to pieces againſt it. In theſe regions of miſts and fogs, the aërial, or watery meteors of every kind, are frequent. The ſolar rainbow is often ſeen different from ours; inſtead of a pleaſing variety of colours, it appears of a pale white, edged with a ſtreak of duſky yellow, the whole being reflected from the boſom of a frozen cloud: a lunar rainbow alſo is often ſeen, of a pale white, ſtriped with grey; parhelii, parſalenæ, and haloes, are alſo frequent here, and balls of fire are ſeen ſhooting through the air. Sometimes whirlwinds happen that draw up water-ſpouts from the ſea, and hurricanes,

ricanes, that drive the ſea-water upon land, and ſcatter it about like ſnow; duſt, ſtones, and earth are torn from the ground, and mounted up in the air; the houſes of the poor natives, quiver and crack; the tents and lighter boats, are ſwept away. However, neither ſtorms nor ſudden rains are very frequent here, the lightnings flaſh with little or no noiſe, and the northern lights, which ſtrike the nations of Europe with portentous terror, ſerve to cheer theſe people during their tedious winter, and light them to their buſineſs or their ſports. The auroræ, the ſtars, and the moon, which, when at full, keeps up for days together in the winter; theſe, their reflection from the ice and ſnows, and the refracted rays of the ſun, which are often ſeen to redden the tops of the mountains, afford a light ſometimes ſufficient to read by.

153. *Tropical Climates.*] It is in the torrid zone, the meteors and tempeſts aſſume the moſt terrific appearances, and it is there their effects are by far the moſt dreadful; the landſcape alſo differs from the proſpect of the polar regions. In the countries under the line, the ſun, darting his beams directly downwards, the lighter ſoils are burnt up into extenſive ſandy deſerts; on the other hand, thoſe tracts which are moiſt and fertile, teem with vegetation, even to a noxious degree. The graſs riſes to ſuch a height as often to require burning; the foreſts are impaſſible from underwoods, and ſo matted above, that even the ſun, fierce as it is, can ſeldom penetrate. The banks, therefore, of the rivers, often lie uncultivated, and ſerve as retreats for beaſts, inſects, and ſerpents. The ſmell of ſome of the plants is ſo powerful, that it is hardly to be endured, and European adventurers, that have ſailed up the Senegal, aſcribe the unwholeſomeneſs of the voyage to the vegetable vapour; at the ſame time, the beauty of the proſpects theſe climes afford, exceeds deſcription, and the utmoſt art of the pencil. A ſpacious glaſſy river, with it's banks here and there fringed to the very ſurface, by the mangrove tree, that grows down into the water, preſents itſelf to view, lofty green plants, and the moſt gaudy flowers; beaſts and animals of various kinds, that ſtand upon the banks of the river, and, with a ſort of wild curioſity, ſurvey the mariners as they paſs, contribute to heighten the ſcene.

The different temperature of the air, at the poles and the equator, produce very different effects. In the cold arctic regions, animal ſubſtances are ſcarcely ever known to putrefy, and meat may be kept for months without any ſalt at all; on the contrary, in the tropical climates, ſuch are the putreſcent qualities of the air, that white ſugar will ſometimes be full of maggots; drugs and plaiſters loſe their virtue, and become verminous. In ſome places, they are obliged to expoſe their ſweetmeats by day in the ſun, otherwiſe the night air would quickly cauſe them to putrefy. Silks and cloths, if expoſed to the air, ſoon loſe their colour; copper and iron are quickly eaten with ruſt; even the inſtruments, knives and keys, that are kept in the pocket, are nevertheleſs quickly encruſted, and the great guns, with every precaution, after ſome years, become invalid.

Upon the approach of our ſummer months, or the winter ones, as they are called under the line, the ſky, from a fiery brightneſs, begins

to

to be overcaſt, and the whole horizon ſeems wrapt in a muddy cloud; miſts and vapours ſtill continue to riſe, and the air, which ſo lately was clear and elaſtic, now becomes humid, obſcure, and ſtifling: the fogs become ſo thick, that the light of the ſun ſeems in a manner excluded: nor would it's preſence be known, but for the intenſe and ſuffocating heat of it's beams, which dart through the gloom, and, inſtead of diſſipating, only ſerve to increaſe the miſt. After this preparation, there follows an almoſt continual ſucceſſion of thunder, rain, and tempeſts; during this dreadful ſeaſon, the ſtreets of cities flow like rivers, and the whole country wears the appearance of an ocean; the whole ſky all around ſeems illuminated with unremitted flaſhes of lightning; every part of the air ſeems productive of it's own thunders, and every cloud produces it's own ſhock; the ſtrokes come ſo thick, that the inhabitants can ſcarce mark the intervals; but all is one unremitted roar of elementary confuſion. When theſe terrors have ceaſed, with which, however, the natives are familiar, meteors of another kind begin to make their appearance. The intenſe beams of the ſun, darting upon ſtagnant waters, that generally cover the ſurface of the country, raiſe vapours of various kinds, which give birth to balls of fire, or floating bodies of it; theſe, from their accidental forms, rather than any real difference between them, receive the different names of the draco volans, or flying dragon; the ignis fatuus, or wandering fire; the fires of St. Helmo, or the mariner's light, &c.

At ſea, the water-ſpouts are ſeen in all their terrors, and large enough to daſh ſhips to pieces; and in theſe parts of the world tempeſts put on the moſt dreadful forms. The Cape of Good Hope, as well as many iſlands in the Weſt Indies, are famous for their hurricanes, and that extraordinary little cloud, which is ſaid to produce them, but which is perhaps rather the vapours (that happening to lie within the ſphere of the growing tempeſt) that have been condenſed as in the vortex of a whirlwind; this cloud appears when firſt ſeen like a ſmall black ſpot, on the verge of the horizon, and is called, by ſailors, the bull's eye, from being ſeen ſo minute at a vaſt diſtance; all this time, a perfect calm reigns over the ſea and land, while the cloud grows gradually broader as it approaches; at length, coming to the place where it's fury is to fall, it inveſts the whole horizon with darkneſs: during all the time of it's approach, an hollow murmur is heard in the cavities of the mountains, and the affrighted animals, ſenſible of it's approach, are ſeen running over the fields to ſeek for ſhelter. The violence of the blaſt is dreadful, when it begins. The houſes in thoſe countries, which are made of timber, the better to reſiſt it's fury, bend to the blaſt like oziers, and again recover their rectitude. The ſun, which but a moment before blazed with meridian ſplendor, is totally ſhut out, and a midnight darkneſs prevails, except that the air is inceſſantly illuminated with gleams of lightning, by which one can eaſily ſee to read; the rain falls, at the ſame time in torrents, and it's deſcent has been reſembled to what pours from the ſpouts of our houſes after a violent ſhower.

The Europeans, when they firſt viſited theſe regions, were ignorant of it's effects, and the ſigns of it's approach; their ſhips, therefore, were daſhed to the bottom at the firſt onſet, and numberleſs were the wrecks, which the hurricane occaſioned; but, at preſent, being fore-warned of it's approach, they ſtrip their maſts of all their ſails, and thus patiently abide it's fury. Theſe hurricanes are common in all the tropical climates. On the coaſts of Guinea, they have frequently three or four in a day, that thus ſhut out the heavens for a little ſpace, and when paſt, leave all again in it's former ſplendor. They chiefly prevail on that coaſt, in the intervals of the trade winds, the approach of which clears the air of it's meteors; and in general, when they ceaſe, theſe irregular tempeſts are found to exert their fury. All this is terrible; but there is a tempeſt known to theſe climates ſtill more formidable: this is called, by the Spaniards, a tornado: as the former was ſeen arriving from one part of the heavens, and making a line of deſtruction; ſo the winds in this, ſeem to blow from every quarter, and ſettle upon one particular place with ſuch fury, that nothing can reſiſt it's vehemence. When they have all met in their central ſpot, then the whirlwind begins with circular rapidity; the ſphere every moment widens, as it continues to turn, and catches every object that lies within it's attraction: this, alſo, like the former, is preceded by a flattering calm: the air is every where huſhed, and the ſea is as ſmooth as poliſhed glaſs.

All along the coaſt of Guinea, for about two thouſand miles, navigation is difficult, upon account of theſe tornados and intervening calms; among which, whatever ſhip is ſo unhappy as to fall, it's ſituation is truly alarming. In the torpid repoſe of all the elements, the ſolitary veſſel is ſometimes obliged to continue, without a ſingle breeze to aſſiſt the mariner's wiſhes, except theſe whirlwinds, which only ſerve to increaſe his calamities: this part of the ocean is therefore avoided.

In Egypt, a kingdom ſo noted for it's fertility and the brightneſs of it's atmoſphere, the ſouth winds blowing from the continent, during ſummer, are ſo hot that they almoſt ſtop reſpiration; beſides which, they are charged with ſuch vaſt quantities of ſand, that they ſometimes darken the air, as with a thick cloud. If they happen to continue any length of time, they produce epidemic diſeaſes, and are often followed by a great mortality: in the ſummer alſo, a very dangerous wind prevails all along the coaſts of the Perſian Gulph, which the natives call the Samayel. This terrible blaſt, which was, perhaps, the peſtilence of the ancients, inſtantly kills thoſe that it involves in it's paſſage, whether beaſts or men. It is ſaid to frequently aſſume a viſible form, and dart along the ſurface of the country, in a kind of bluiſh vapour. The natives, not only of Perſia, but Arabia, talk of it's effects with terror; and their poets have not failed to heighten them, with the aſſiſtance of imagination. They have deſcribed it as under the conduct of a miniſter of vengeance; who governs it's terrors, and raiſes or depreſſes it as he thinks proper. Theſe deadly winds are alſo known along the coaſts of India, at Necapatan, Maſulipatan, and Petapoli; but luckily for mankind, the ſhortneſs of their

their duration diminiſhes the injuries that might enſue from their malignity.

But of all thoſe terrible tempeſts, that deform the face of our globe, and repreſs human preſumption, the ſandy tempeſts of Arabia and Africa, are perhaps the moſt terrible, and ſtrike the mind with the greateſt awe. To conceive a proper idea of theſe, we are by no means to ſuppoſe them reſembling thoſe whirlwinds of duſt, that we ſometimes ſee ſcattering in our air, and ſprinkling their contents upon our roads or meadows. The ſand-ſtorm of Africa exhibits an appearance more like a troubled ſea: as the ſand is exceſſively fine, and almoſt reſembles the parts of water, it's motion entirely reſembles that of a fluid; and the whole plain ſeems to float onwards, like a ſlow inundation; the body of ſand thus rolling, is deep enough to bury houſes and palaces in it's boſom: travellers, who are croſſing thoſe extenſive deſerts, perceive it's approach at a diſtance, and in general have time to avoid it, or turn out of it's way, as it generally extends but to a moderate breadth; however, when it is extremely rapid, or very extenſive, as ſometimes is the caſe, no ſwiftneſs, no art, can avail; the pilgrims and the merchants, their elephants, and their camels, with all their attendants, find one common tomb under the deluge of ſand.

The rivers, that have their ſource in the Torrid Zone, are the largeſt in the world; and, as the rainy ſeaſons there are periodical, the rivers have their ſtated inundations, which deluge whole countries, and drive the inhabitants to the hills: compared with theſe, the rivers near the Pole are but as brooks or rivulets. The mountains alſo on the equator, are the loftieſt in the world; much of the magnificence of the hills, near the poles, is only ſeen through the deceptive medium of vapours and fogs; the mountains on the line are known to riſe three miles perpendicular above the bed of the ocean; and thoſe who climb them, ſee meteors which never appear in the plains below. When the traveller has aſcended above the regions of ſtorms, and, as is frequently the caſe, ſees the clouds below him, and hears their thunders rolling quite beneath his feet; from this airy height he beholds the rainbow, not merely like a ſplendid arch reared in the ſkies; he ſees the ſhining circle complete, ſweeping down into the vallies, as far beneath his feet as it riſes above his head; from this romantic ſituation, he ſometimes ſees the ſhadow of the mountain projected upon the body of the air or miſt; and, on an oppoſite cloud, views his own image, as in a looking-glaſs, but ſurrounded as with circular rainbows. It is remarkable, if there be a number of people in company, in ſuch a ſituation, each ſees this beautiful and ſplendid illuſion, with regard to himſelf, and not that relating to others; or he ſees only his own ſhadow, adorned as already deſcribed. The plains near the line are alſo vaſt and extenſive, and he who traverſes theſe, knows the benefit of a water-brook, and of the ſhadow of a rock in a deſert and weary land.

154. *General Obſervations on the People.*] In contemplating theſe oppoſite extremities of climate, how naturally are we led into flattering reflections on the happy temperature of our own. In our happy

land the mountains ariſe and improve our proſpects; their brows are cloathed with verdure, and their ſummits collect enough of waters to cool and diverſify the landſcape below with rivulets and ſtreams, and to anſwer the purpoſes of manufacture, navigation, and commerce, without deluging the plains, and ſweeping off the inhabitants: here alſo the meteors put on a kind and friendly appearance; the rain falls in refreſhing ſhowers, to fertilize the earth; our ſnows afford a kindly protection to the ground from the rigour of more piercing froſts; and, even our thunder and our tempeſts, ſerve to purify our atmoſphere. On the banks of our rivers, and in our foreſts, we need neither fear the winding ſerpent, nor the lurking crocodile, the prowling wolf, the ſhaggy bear, nor the ſtill more fierce and cruel, the ſpotted ſavages of the torrid zone. Our landſcapes are enlivened with animals of a very different kind, the bleating of flocks, and the lowing of herds, baniſh ſolitude from our walks, and ſound the voice of plenty in our ears; they take their fodder from the huſbandman, and give their dugs to the milk-maid; the horſe rejoices in his ſtrength, and retains ſome of his native fire; he paws in the valley, and bounds over the paſture; again, he hears the voice of his maſter, and gives his head to the reins; ſo beauteous are the proſpects our land affords; yet, let it be remarked, a native of the Torrid Zone, or of the cold Arctic Regions, generally ſees more beauty in his own native climes: this one ſkims along the deſert upon his ſkates, or drawn by his rein-deer or dogs; without reſtraint, hunts, fiſhes, and fowls; again, the tempeſt comes on, he betakes himſelf to his hut, and hugging himſelf in ſecurity, hears it blowing over his head. The African alſo delights to throw himſelf upon the exerciſes of the field, he endures the blaze of noon, which would ſicken an European, and encounters animals of the foreſt, the glare of whoſe eyes might petrify one with horror; he plunges into the waters, and ventures ſingly to attack the monſters of the deep in their own native element; he evades the deſtruction of their yawning jaws, which would cruſh him to pieces, and ſwallow him up; he plunges his knife into their bodies with mortal force; he fixes a nooſe round his enormous prey, drags it to the ſhore, and proclaims a feaſt to the village; or he draws an eaſy harveſt from the ſoil he inhabits; and, ſtretched under the ſhade of the broad ſpreading plantain, or the fever-colling tamarind, happy, and at eaſe, and unenvious of other climes, he lolls away the ſeverity of noon, or drinks the refreſhing juice of the unnumbered fruits, of keen delicious taſte, that wave over his head; or that, fanned by the breeze, are ſcattered about him in profuſion. Thus, we ſee the pleaſures of this life are more impartially diſtributed to the different quarters of the globe, than might at firſt be imagined, and as there are every where inconveniences to be experienced, it ſeems happy for man, he generally prefers even of choice, thoſe which his ſituation oblige him to inherit; this diſpoſition ſeems not only to obtain with nations at large, but alſo among the different orders of men in particular countries: thus, the mariner braves the tempeſt, and calmly endures the complicated hardſhips, his way of life expoſes him to; it is entertaining enough to obſerve him, when ſafe into port, his perils, with the remembrance of them, are together ſuſpended,

pended, he looks about him on the toils of the landſmen, he pities their ſufferings, and, as if he had made a diſcovery, he feelingly remarks, one half of the world knows not how the other half lives: while on the other hand, the landſmen hear the whiſtling of the winds, pity the poor ſailor, and think how happy it is for them, their lot has been caſt upon land. Thus, the man of manual labour admires the patience and perſeverance of the minute artiſt, the accomptant, and the man of abſtruſe learning; he recoils at the idea of purſuits ſo tedious, and drives, with pleaſure, his team afield; or contentedly toils with the hammer, the hatchet, or ſpade: while theſe lift up their eyes on the variegated landſcape, and ſee in towns and villages, in every hedge and ditch, in every ridge and every furrow, the marks of labour and toil, which they think it has been their peculiar privilege to eſcape. If we carry ſtill farther the compariſon between the different orders of men, it will appear of how little conſequence it is, what may be a man's outward ſituation in life, and how the cauſe of pleaſure or uneaſineſs moſtly lies in the mind. The governors of the earth, thoſe ſolitary beings, who, for want of equals, are deprived of the pleaſures of friendſhip, finding in thoſe, with whom they have to do, only flatterers or ſlaves, and perpetually ſtriving with the people, for the extenſion or preſervation of prerogative, have their countenances ſometimes brightened with ſmiles, though in ſo unnatural a ſituation; while the brows of thoſe who are in humble ſituations, are ſometimes ſeen furrowed with cares and anxiety for the proviſion of the day.

To ſurvey more generally the lower orders of the creation, we may imagine another ſort of tour round the globe. In our view of the nations of the earth at large, we took our departure from the barriers of ice, that ſurround the ſouth pole; in this ſurvey, we may take our departure from the ſimilar embarraſſments that block up the much-deſired paſſage to the Pacific on the north.

On quitting the accumulated maſſes of ice that inveſt the Arctic regions, the buſineſs of whale-fiſhing riſes on the view. When the ſun gives to Europe the advantages of ſummer, the northern icy ſeas are involved in the glare of continual day; there we may meet with European veſſels all engaged in this hardy adventure; and there the little Greenlanders equally as buſy in their ſmaller craft.

155. *Whale Fiſhery.*] For the encouragement of this buſineſs, the Britiſh government gives a bounty to the veſſels; it is regulated by the number of her boats: for every hundred ton the veſſel is of burden, as meaſured by the officers of the cuſtoms, ſhe carries a boat; to each boat there is an harpooner, and a crew of ſix or ſeven. When they are arrived at a proper latitude, they are all upon the watch, and ſome of them every now and then run up into the rigging for a better look out; one boat, or perhaps more, at the ſame time keeps rowing at a diſtance from the veſſel. When a whale is diſcovered by it's ſpouting up water, the boat directly rows up to it's ſide, the harpooner, who ſtands at the prow or bow of the boat, plunges his harpoon in it's body, the boat immediately hurries off, for fear the fiſh ſhould daſh it in pieces by the flouncing of it's tail; they then hoiſt a little flag, which when diſcovered on board, the ſignal is given, by calling out,

fall; the other boats, which had been ſlung on the ſides of the veſſel equipped with all their tackle, and ready to be lowered into the water at a moment's warning, are immediately let go; in leap the crews, and row off with all haſte to the aſſiſtance of the other boat. It is ſome time before the whale ſeems to feel the blow, and the animal continues for a while motionleſs on the water; the ſhaft continues to pierce deeper and deeper into it's body; at length, roufed from it's ſeeming lethargy, it darts down into the water with amazing rapidity; as it makes off, it draws after it with ſuch velocity, the line or cord of the harpoon, which is coiled up in the boat, that one man has to ſtand by, with an axe, ready to cut it, if it ſhould entangle, leſt the boat ſhould be overſet, and they be all drawn down together; another, with a mop, keeps conſtantly wetting the edge of the boat, where the line runs over, to prevent it's being ſet on fire by the friction of the rope; in the mean time, the boat purſues, as faſt as they can row, the direction of the line; the others follow, and the ſhip, as well as it can, for there are but very few left on board, brings up the rear. If the fiſh is not mortally wounded, he can flounce about in the deep for an hour, and draw a line of two thouſand yards after it, in which caſe, the other boats haſten up and add their lines; and ſometimes it gets off, by diving under an ice iſland, but commonly it is killed. The enormous animal has to come up to the top of the water to breathe, the crews are ready to renew their attacks, they dart their harpoon into it's body; it again dives and rites again; they repeat their blows, till the whale begins to be quite enfeebled and ſpent, when they plunge their longer ſpears into various parts of it's body: the enormous animal expires, and the ocean ſeems dyed with blood. When the whale is dead, it's belly turns upwards, the boats tow it away, and it is laſhed alongſide of the ſhip; the firſt work is then to go with a boat into it's jaws, and to cut out the whale-bone barders very cautiouſly from it's gums, with a long bending knife, and to draw them up at the capſtan. This enormous beaſt of the ocean, which meaſures from fifty to eighty feet in length, which was found to reach two hundred feet, when the Biſcayneers, in the beginning of the fourteenth century, firſt led the way into theſe ſeas, and the animal had time given it to come to it's growth, and which Pliny reports to be nine hundred and ſixty feet long, we may very naturally ſuppoſe muſt devour a great quantity of fiſh; it's throat, however, is ſo ſtrait that it will not admit a fiſh larger than a herring to enter; it lives upon little inſects that are ſometimes ſeen floating in cluſters on the ſurface of the water; and though the whale is a gregarious animal, being found in great herds, yet upon this minute food it acquires fatneſs: for feeding upon theſe, teeth would be unneceſſary; in place of theſe, it has, in it's upper jaw, the barders, blades, or whiſkers, as they are called, for bruiſing or detaining it's food; theſe compoſe what we call the whale-bone: they are of different lengths, like pipes of an organ, they ſhut into the under jaw, which is a little hollow, as into a ſheath; they run alſo along the tongue in a longitudinal direction. The great toothleſs, or proper Greenland whale, anſwers this deſcription; there are other ſorts that have teeth, and purſue their prey, theſe are more miſchievous

ous and ſavage in their habits. When the beſt of the barders are cut out, to the amount of many hundreds, they cut off the blubber from the tongue, and then proceed to ſtrip the whole body of the fat, beginning both at the head and tail at once, and ending in the middle; the men that ſtand on the fiſh, have ſharp irons on their ſhoes to prevent them from ſlipping; they cut off the fins and tail, to be converted into glue; and laſtly, they ſtrip off the fat on the middle part of it's body, all the while removing the ropes wherein it is ſlung, as occaſion may require. When the mountain of fleſh is thus ſtripped of it's fat, it loſes it's buoyancy; it is turned adrift; down goes the carcaſe or ſcrag into the deep, with a general and joyful huzza of the crew. In a few days, it burſts, and riſes again, and ſerves to regale the fiſhes, birds, and bears with a profuſe feſtivity. Some nations, alſo, are fond of the fleſh of the whale; the people near the ſouth pole, as well as thoſe of Greenland, are extremely fond of it; the French ſeamen are now and then found to dreſs and uſe it, as their ordinary diet at ſea; but the Engliſh and Dutch ſailors ſay it is hard and ill-taſted. The value of a ſingle fiſh is uſually about one thouſand pounds.

The method of the Greenlanders in taking the whale rather differs from that of the Europeans; both men and women compoſe the parties; the buſineſs of the women is to row, and to mend the ſeamen's jackets and the boats whenever they are damaged. For good luck in the expedition, they dreſs in the beſt manner they can, ſuppoſing the ſqueamiſh whale would eſcape, or if dead, that it would ſink, if any one wore dirty cloaths, eſpecially thoſe wherein he had handled a dead corpſe. When they ſee a fiſh, they make boldly up to it, in their men's and women's boats, and ſtrike it with ſeveral harpoons, to which bladders are hung, made of great ſeal-ſkins. Theſe ſo encumber and impede the whale, that it cannot ſink deep: when it is tired out, they diſpatch it with their little lances. The men then creep into their ſea jackets, which are made of ſeal-ſkin, and anſwer as ſhoes, ſtockings, gloves, coat, and cap, all in one piece: theſe they faſten tight on their heads, and leap fearleſs on the fiſh, and into the ſea. The air in the jackets prevents their ſinking, and enables them to ſtand erect in the water. They ſtrip off the blubber, and cut out the barders. As every ſpectator may claim a ſhare in the ſpoil, the ſcene is ſometimes very diſorderly: men, women, and children tumbling in heaps one over another, each with a knife ſtriving to ſecure a portion of the enormous prize. They conſider the acquiſition as a happy circumſtance of their lives: they encamp beſide it, when drawn aſhore, and ſeldom remove till they have left nothing but the bones.

156. *Polar Regions.*] Beſides the ſpouting of whales, and the buſineſs of taking them, which preſent an intereſting ſcene in the icy ſeas, the number of animals, the ſea-fowl, ſeals, and bears, which are ſeen there in great numbers, enliven thoſe dreary ſolitudes, and animate the chilling proſpect. How theſe can endure the ſeverity of the climate, and enjoy life in the regions of froſt, will perhaps be one of the firſt of our wonders in contemplating on theſe creatures. They find a plentiful ſupply from the fiſhes of the ſea, and are armed againſt the cold with fat, and a warm outward covering. It is remarkable,

markable, that the furs or feathers of many of the animals of the cold, northern regions of the earth, become white in winter: we might imagine that, as the hair in the human ſpecies becomes white in old age, when there is a deficiency of the juices of the body, the ſeverity of the cold had the ſame effect on theſe, and produced a premature or rather temporary old age, in their coverings; however this be, as we find in the different orders of the creation, whether beaſts, birds, or fiſhes, the attacks of the rapacious kind are obviated by the means of evaſion, or the ſuperior fecundity of thoſe they prey upon; and thus the different ſpecies are preſerved from generation to generation; perhaps theſe animals are white, that they may be leſs eaſily diſtinguiſhable from the ſnows, and conſequently leſs expoſed to the attacks of their enemies. The land animals, that find ſubſiſtence in the cold regions of the north are many, and of various ſizes, from the hare to the elk or mooſe deer, which ſtately creature approacheth in ſize to the elephant, with it's horns ſpreading out to the extent of ten or twelve feet; and from the cleanly little ermin to the ingenious beaver, the fox, the larger wolf, and the great white, or Greenland, bear, which reigns the unrivaled monarch in the icy mountains of Greenland and Spitſberg, as the lion is the tyrant of the burning deſerts of Zaara. The great white bear, three or four yards long, ſeems to have acquired ſtrength, hardineſs, and courage ſuperior to the reſt of it's ſpecies, whether we conſider them as found brown in the Alps, or black in the foreſts of North America. Theſe awkward-looking creatures are expert at climbing trees; in the hollows of them they ſometimes make their dens, at the height, of thirty feet from the ground. The Greenland bear robs the neſts of fowls, and devours both the eggs and the birds; the deer alſo ſometimes fall under his dreadful jaws. In the ſeverity of cold he retires to his den, to paſs away the winter in a ſleep or torpid kind of ſtate, living upon his fat: for in this time, his exuberance of fleſh is waſted away; when the winter is paſt, and he feels again the calls of hunger, he rouſes from his lethargy to ſeek for his prey. In this famiſhed ſtate, he ſnuffs at a diſtance the habitations of men; he ſometimes ventures on an attack upon theſe, but is commonly killed, and becomes the food of thoſe whom he attempted to deſtroy; ſometimes, however, his oppoſers, ſome of them, fall under his death-giving gripe; but it is from the water this formidable animal chiefly draws it's ſuſtenance; there it is ſeen floating on flakes of ice, many leagues from the land, in purſuit of ſeals and fiſhes; he even ventures to plunge into the ſea, and attack the flouncing whale and the morſe with it's formidable tuſks, in their own element; but he generally falls in the unequal conflict.

157. *Migrations of Birds.*] The variety of fowls and fiſhes, that only appear on our ſhores, or in our ſeas, at particular ſeaſons; their ſtated departures, and their regular returns, have employed much of the attention of the curious; theſe may be called animals of paſſage. Among fiſhes, the cod, the haddock, the whiting, the mackarel, the tunny, the herring, and the pilchard, are all of this kind. Beſides quails and ſwallows, which ſeem at the cloſe of our ſummer to depart for warmer climates, not without firſt conferring, in cloſe debate, on the

the adventurous paſſage, and which, it is agreed, are ſeen at ſea, both on their departure and return, in ſuch prodigious flocks, as to appear like clouds on the horizon; among birds we may reckon an innumerable quantity of water-fowl, with woodcocks, and a variety of other birds that make their appearance here in the winter; theſe, and the fiſhes, generally viſit us from the north. When uncultivated tracts of woods and marſhes formed a conſiderable part of our iſlands, many ſpecies of birds, which now migrate, remained with us throughout the year: the great heron and the crane, that have now forſaken theſe countries, in former times bred familiarly in our marſhes, and ſeemed to animate our fens. Their neſts, like thoſe of moſt cloven-footed water-fowl, were built on the ground, the ſurrounding marſh defended them from carnivorous quadrupeds, and their own ſtrength from birds of prey; but ſince theſe countries have become populous, and rural economy has increaſed, by a long ſeries of alarms, they have at length been obliged to ſeek, during the ſummer, ſome lonely habitation at a ſafe diſtance from every deſtroyer. Theſe, and numerous other kinds, form thoſe amazing flocks which annually repair to the dreary lakes and deſerts of Lapland from the more ſouthern countries of Europe. In thoſe northern deſerts, the lands of lakes and rivers, of ſwamps and mountains, covered with thick and gloomy foreſts, where the ground remains moiſt and penetrable during the ſummer, the woodcock, the ſnipe, and other ſlender-billed birds, feed at their eaſe; while the web-footed birds find more than ſufficient plenty of food from the number of inſects which ſwarm there to an incredible degree; there they perform the duties of incubation at their eaſe, and increaſe in ſecurity. We are not to be aſtoniſhed, therefore, at the amazing numbers of fowl that deſcend from thoſe regions at the approach of winter; numbers to which the army of Xerxes was but trifling in compariſon; and which Linnæus has obſerved for eight whole days and nights to cover the ſurface of the river Calix. This migration from the north uſually begins at the cloſe of ſummer, when they quit their retreats, and diſperſe themſelves all over the ſouthern parts of Europe: on their firſt arrival, they circulate round our ſhores, and, when compelled by ſevere froſt, betake themſelves to our lakes and rivers. Some, indeed, of the web-footed fowl, of hardier conſtitutions than the reſt, abide the rigours of their northern climate the whole winter: but when the cold reigns there with more than uſual ſeverity, they are obliged to ſeek for more ſouthern ſkies; ſo that the diver, the wild ſwan, and the ſwallow-tailed ſhell-drake, viſit our coaſts but ſeldom, and that only when compelled by the ſeverity of their winters at home. It has often appeared a matter of aſtoniſhment, how animals, to all appearance ſo dull and irrational, ſhould perform ſuch long journeys, ſhould know whither to ſteer, and when to ſet out upon ſuch a great undertaking. What then ſhall we think of the ſtill more diſtant migrations of the fiſhes?

158. *Migrations of Fiſhes.*] The unnumbered flocks of fowl that enliven the bleak and chilling proſpects in the arctic ſeas, are ſometimes ſeen poſting away to the ſouthward; fiſhes are their prey, and theſe they are purſuing. The ſhoals of fiſhes, that annually come out from

under the ice at the pole, and migrate towards the ſouth, ſeem numerous beyond conception, and various have been the conjectures on the cauſe of their migration. It has been thought that they breed there; that the ice protecting them from the larger fiſhes, and the ſeas ſupplying a great quantity of the inſect food, they multiply beyond expreſſion; and that, on account of their numbers, they are compelled to ſeek for other retreats, as with bees from a hive. It has been imagined they are all engaged in evaſion or purſuit, that the leſs fry only viſit us as they are chaſed upon our ſhores, the larger ſort as they purſue. It has been conjectured, that they come on account of a deficiency of food in the icy ſea; and it has been concluded, perhaps moſt rationally, that their adventurous migration is for the purpoſe of depoſiting their ſpawn in our warmer ſeas; their welcome viſits ſeem ſtated and regular; accordingly the ſeaſons for cod, mackarel, whiting, &c. are fixed and known; but how and when they return to the icy ſeas, or whether they ever return or no, ſeems one of the wonders of the deep, which the moſt ſkilful icthyologiſts have not diſcovered. Of all migrating fiſh, we ſeem beſt acquainted with the adventures of the herring and the pilchard. The great colony of them ſets out from the icy ſea about the middle of winter, compoſed of numbers, that if all the men in the world were to be loaded with herrings, they could not carry the thouſandth part away. But they no ſooner leave their retreats, than millions of enemies appear to thin their ſquadrons. The fin-fiſh and cachalot ſwallow barrels at a yawn; the porpoiſe, the grampus, the ſhark, and the whole numerous tribe of dog-fiſh, find them an eaſy prey, and deſiſt from making war upon each other; while the unnumbered flocks of ſea-fowl, that chiefly inhabit near the pole, watch the outſet of their dangerous migration, and ſpread extenſive ruin. In this exigence the defenceleſs emigrants find no other ſafety but by crouding cloſer together, and leaving to the outmoſt bands the danger of being firſt devoured; like ſheep, that always run together when frighted, each finding ſome protection in being but one of many that are equally liable to invaſion. The innumerable company firſt divide into two great ſhoals, one body moves to the weſt, and pours down along the coaſts of America, as far as Carolina, and but ſeldom farther. In Cheſapeak-bay the annual inundation of this fiſh is ſo great, that they cover the ſhores in ſuch quantities as to become a nuiſance. Thoſe that hold more to the eaſt, and come down towards Europe, endeavour to ſave themſelves from their mercileſs purſuers, by approaching the firſt ſhores they can find; and that which firſt offers in their deſcent is the coaſt of Iceland: in the beginning of ſpring, upon their arrival on that coaſt, their phalanx, which has already ſuffered conſiderable diminutions, is nevertheleſs of amazing extent, depth, and cloſeneſs, covering an extent of ſhore as large as the iſland itſelf; the whole water ſeems alive; and is ſeen ſo black with them to a great diſtance, that the number ſeems inexhauſtible. There the porpoiſe and the ſhark continue their depredations; and the birds devour what quantities they pleaſe. By theſe enemies, the herrings are cooped up into

ſo cloſe a body, that by a ſhovel, or any hollow veſſel being put into the water, they are taken up without any farther trouble.

Their deſcent on our coaſt is later in the year, about Midſummer: their arrival is plainly announced by the number of gannet, the gull, the ſhark, and the porpoiſe. When the main body is arrived, it's breadth and depth are ſuch as to alter the very appearance of the ocean; it is divided into diſtinct columns of five or ſix miles in length, and three or four broad, while the water before them curls up, as if forced out of it's bed; ſometimes they ſink for the ſpace of ten or fifteen minutes, then riſe again to the ſurface, and, in bright weather, reflect a variety of ſplendid colours, like a field beſpangled with purple, gold and azure. Among the conjectures on the cauſe of that extraordinary phenomenon, the Aurora Borealis, ſome imagined it proceeded from the reflection from theſe ſhoals; while others ſuppoſed it produced by the flames of burning mountains, till later diſcoveries accounted for it by electricity.

As the innumerable ſhoals fall on the coaſts of our iſlands on the north, they are divided by the obſtruction of the land, and pour down their ſupplies into our channels and bays, and along our oppoſite ſhores, they afford the natives a freſh and plentiful proviſion, and an article of commerce to remote and diſtant parts. As the fiſhes in the deep live by preying upon each other, the fecundity in the ſmaller kind ſeems amazing and incredible; a ſingle herring, if ſuffered to multiply, unmoleſted and undiminiſhed, for twenty years, would ſhew a progeny greater in bulk than ten ſuch globes as that we live upon; generally, whatever part of the ocean we ſurvey, ſcenes of purſuit and evaſion, ſimilar to thoſe already deſcribed, preſent themſelves to view; thoſe with the largeſt mouths and gullet attack and devour the larger kind; thoſe whoſe mouths are leſs, lie in wait for the ſmaller fry, and even theſe chiefly ſubſiſt upon ſpawn; and flocks of fowl, hovering on the waters, dart upon their finny prey, and receive their ſupplies; the natives, alſo, of almoſt every habitable coaſt upon earth, partake of the grateful tribute.

159. *Tropical Seas.*] In the tropical climates, the dorado is at once the moſt voracious, the moſt active, and the moſt beautiful of the finny region; it's back is all over enamelled with ſpots of a bluiſh green and ſilver, the tail and fins are of a gold colour, and all have a brilliancy of tinct that ſurpaſſes the pencil of the artiſt; it's eyes are large and beautiful, and ſurrounded with circles that look like ſhining gold. In the ſeas, where they are found, theſe fiſh are always in motion, and play round ſhips in full ſail with eaſe and ſecurity, for ever, either purſuing or purſued, they are ſeen continually in a ſtate of warfare, either defending themſelves from the ſhark, or darting after the ſmaller fiſhes. The flying-fiſh, more than all others, abounds in thoſe ſeas, and as it is a ſmall animal, ſeldom growing above the ſize of a herring, it is chiefly ſought by the dorado, which being above ſix feet long, yet not thicker than a ſalmon, and furniſhed with a full complement of fins, cuts it's way through the water with amazing rapidity; on the other hand, the flying-fiſh is furniſhed with two pair of fins larger than the body, and theſe are moved by a ſtronger ſet of muſcles than any

other: the dorado is ſeen in this active purſuit darting after it's prey, which will not leave the water while it has the advantage of ſwimming in the beginning of the chaſe; but, like a hunted hare, being tired at laſt, it then has recourſe to another expedient for ſafety, by flight; the long fins, which began to grow uſeleſs in the water, are now exerted in a different manner and different direction from that in which they were employed in ſwimming; by this means the timid little animal riſes from the water, and flutters over it's ſurface for two or three hundred yards, till the muſcles employed in moving the wings are enfeebled by that particular manner of exertion; by this time, however, it has acquired a freſh power of renewing it's efforts in the water, and the animal is capable of proceeding with ſome velocity, by ſwimming; ſtill, however, the active enemy keeps it in view, and drives it again from the deep, till, at length, the poor little creature is ſeen to dart at ſhorter diſtances, to flutter with greater effort, and to drop down at laſt into the mouth of it's fierce purſuer: but not only in the deep does this little animal meet with it's purſuers, the dorado, or dolphin, the fowls of the air ſeem alſo combined againſt it, ſo that it's double powers appear to expoſe it to a greater variety of dangers, for though it ſhould eſcape from it's enemies in the water, yet the tropic-bird and the albatroſs are for ever upon the wing to ſeize it; thus purſued in either element, it ſometimes ſeeks refuge from a new enemy, and it is not unfrequent for whole ſhoals of them to fall on ſhipboard, where they furniſh man with an object of curioſity. Theſe are but a few of the obſervations that have been made on the inhabitants of the ſea, and it ſeems highly probable that man has drawn but a few from their watery beds, and that there are numerous tribes of them in the ſecret receſſes of the deep, with whoſe manners and forms he is utterly unacquainted; there, living for ages undiſturbed, they may acquire dimenſions of which we have no conception, and even exceed what has been told of the kraken looking like an iſland, or of the ſea-ſerpent, with it's long white mane, rearing it's head or tail to an amazing height above the ſurface of the ſea, and rolling it's enormous folds on the water like great floating caſks, or 'like an hundred dung-heaps that lie in a row on a field to be ploughed.'

By help of the plummet we have learnt that the bottom of the ſea, like the land, has it's mountains and valleys, but the plummet only anſwers comparatively in the ſhallows; the depths of the ſea we cannot ſound at all. Where the plummet can be uſed, and in ſtill leſs depths, where the eye can reach, the bottom of the ſea preſents very different appearances, as it is compoſed of rocks, clays, ſhells, ſands, &c. In many parts, near the coaſts of America, it is covered with vegetables, which make it look as green as a meadow, on which are ſeen thouſands of turtles, and other ſea-animals feeding; in others, as along the coaſts of Africa, in the Perſian Gulph, &c. but eſpecially in the Red Sea, it is, literally ſpeaking, a foreſt of ſubmarine plants and corals, formed by inſects for their habitations, ſometimes branching out to a great extent, and, at laſt, with the accumulation of the wreck the ſea depoſits upon them, forming lands and iſlands for the habitations

habitations of men, and bold ſhores, or reefs of coralline rocks, which are dangerous to navigation, but which maintain the acquiſitions made from the ocean, while it heaves againſt them a prodigious weight of waters, which, being daſhed into foam by the abrupt oppoſition, is called by the mariners, the ſurf of the ſea. Theſe are the interruptions that make navigation ſo dangerous on the coaſts of the Eaſt Indies, and among the South-Sea Iſlands; with theſe, however, the natives are familiar; among theſe they have the art of ſwimming, and navigating their little veſſels, where an European would be ſure of being daſhed to pieces.

160. *Africa.*] If we leave the tropical ſeas to take a view of the animals of the tropical countries, Africa ſeems to offer the greateſt variety. In this quarter of the globe, where many nations ſeem to lead a wild and roving kind of life, but little acquainted with the benefits of arts and aſſociations, the ſavages of the foreſt ſeem to diſpute the poſſeſſion of their native wilds with the lords of the earth. Among the rivals of man, in thoſe extenſive deſerts, we may reckon the lion, the tiger, with the other beaſts of prey; the ſerpent and the crocodile, thoſe fierce and cruel enemies; the elephant and the rhinoceros, formidable when attacked, and even the ape, which, in ſome parts, grows to the amazing length of ſix and ſeven feet, and proves his moſt formidable oppoſer; the ſmall kinds of apes, by their natural agility, leave far behind the utmoſt exertions of poſture-maſters and dancers; the gigantic races of the ourang-outang are ſo ſtrong, that ten men would not be a match for one of them; they go together in companies, and if they happen to meet one of the human ſpecies remote from ſuccour, they ſhew him no mercy; they even attack the elephant, which they beat with their clubs, and oblige to leave that part of the foreſt which they claim as their own. Among ſo many fierce or formidable enemies we may be ready to wonder how the Indian, or Negro, can ſubſiſt, or prevent his country from being quite overrun by them; it is, perhaps, by their mutual conteſts, more than by any thing his feeble arts can oppoſe, that their numbers are thinned. At night-fall, when the raging heat of the day has ſubſided, and man prepares to go to his reſt, the ſtate of hoſtility begins; the whole foreſt then echoes to a variety of different howlings; the deep-toned roarings of the lion are heard like diſtant thunder, the ſhriller yellings of the tiger pierce the ear, the jackall, the hyena, and other animals of the dog kind, purſue their prey in packs, and make the foreſts ring, while they animate each other in the fatigues of the chaſe by their mutual cries: the ſerpents, alſo, of various kinds, that begin their calls at the cloſe of the evening, by their cries and hiſſing, make a much louder ſymphony than the birds in our groves in a morning. But the neighbourhood of a river, rivulet, or lake, is moſt eſpecially the place where theſe hoſtile tribes draw up for the engagement. In thoſe burning countries, where the ſun dries up the water for hundreds of miles round, when what had the appearance of a great river in the rainy ſeaſon, becomes, in ſummer, one dreary bed of ſand; in thoſe countries a lake that is never dry, or a brook that is perennial, is conſidered by every animal as the moſt deſirable acquiſition. Being inwardly parched by the heat of the climate, they traverſe whole deſerts to find out a

ſpring, which when they have diſcovered, no dangers can deter them from attempting to enjoy. On the banks of this little envied ſpot, thouſands of animals of various kinds are ſeen venturing to quench their thirſt, or preparing to ſeize their prey. The elephants are perceived in a long line, marching from the darker parts of the foreſt, the buffaloes are there depending upon numbers for ſecurity, the gazelles relying ſolely on their ſwiftneſs for ſafety, the lion and tiger waiting a proper opportunity to ſeize; but chiefly the larger ſerpents are there upon guard to defend the acceſſes of the lake: not an hour paſſes without ſome dreadful combat, but the ſerpent, defended by it's ſcales, and naturally capable of ſuſtaining a multitude of wounds, is the moſt formidable; it is the moſt wakeful alſo, for the whole tribe ſleep with their eyes open, and are conſequently for ever on the watch, ſo that, till their rapacity is ſatisfied, few other animals will venture to approach their ſtation. Thus dreadfully hoſtile are the beaſts, and thus ſavage the ſcenes that give animation to, and diverſify, the African landſcape.

161. *Europe.*] In Europe, civilization ſeems to have reduced the generality of the beaſts of the field to the obedience of man, and to have baniſhed thoſe of the rapacious kinds; it is true, in it's moſt northern regions, and in the wilder parts of it on the ſouth, as about the mountains of the Alps, wolves and bears ſtill hold the poſſeſſion of their gloomy receſſes, and ſometimes make their depredations on the flocks or herds of the huſbandman, and while even the fleet deer have been domeſticated and incloſed in parks, ſome of the cow kind, unreclaimed by man, ſtill run wild and bellowing in the foreſts. But it is in the wilds of Africa, that all the tribes of the creation ſeem to enjoy their native freedom; there the horſe, the aſs, and the zebra, in unnumbered herds, ſcour acroſs the deſert, and own no maſter's ſtall; there the cow, the ſheep, and the goat bound over the hills, they wait not in thoſe fruitful regions to be ſupplied with fodder at the hand of man, or to be penned up in folds: the flocks unite in their common defence, or ſeek ſafety in flight.

162. *Aſia, Iſles of the Pacific.*] The wilds of Aſia on the ſouth ſeem to preſent a picture ſimilarly ſavage, and the animals which compoſe it are found extended on the north, into Tartary and China. The iſlands of the Pacific are unfurniſhed with theſe creatures.

163. *America.*] In America, however, we meet with ſome of theſe formidable animals, but it is remarkable they generally ſeem feeble and diminutive, if compared with thoſe of Africa and Aſia. The tapir bears ſome reſemblance to the mule; it chiefly reſides in the water, but comes aſhore to graze on the banks, and may be conſidered as the river horſe of America; but what is it's ſtrength, and what are it's dimenſions, when compared with the behemoth, or hippopotamos of the Nile, Niger, or Zaara, above ſeven feet high, and of a proportion every way fitted for ſtrength, whoſe jaws open about two feet wide, whoſe fore-teeth are above a foot long, whoſe diſpoſition, however, ſeems as inoffenſive as it's force is prodigious, and which ſeldom ventures from the river ſide, but when preſſed by the neceſſities of hunger, or of bringing forth it's young? There ſeems ſtill a greater diſ-

proportion

proportion between the camel, and the American lama. The lion of Bilidulgerid is ſaid to be nearly five feet high, his outward form diſplays activity and ſtrength; his mien is ſtriking, his looks confident and bold, his gait proud, and his voice terrible; when he prepares for the combat, he ſummons up all his terrors, he then laſhes his ſides with his long tail, which alone is ſtrong enough to lay a man level; he moves his mane in every direction; it ſeems to riſe, and ſtand like briſtles round his head; the ſkin and muſcles of his face are all in agitation; his huge eye-brows half cover his glaring eye-balls; he diſcovers his teeth, which ſeem rather formed for deſtruction than chewing his food; he ſhews his tongue covered with points, and extends his claws, which appear almoſt as long as a man's fingers. The tiger of Bengal, of ſtill more untameable ferocity, though not ſo tall as the lion, has ſometimes been known to meaſure twelve feet in length, without including the tail, while the cougar, or tiger of America, ſeldom exceeds three; and the puma, which has received the name of the American lion, is a creature ſtill inferior, being extremely cowardly, climbing trees for it's prey, and ſubſiſting rather by it's cunning than it's courage. The difference ſeems leſs conſiderable between the jaguar, or panther of America, and the leopard or great panther in Aſia, and between the lynxes, that are chiefly found in the northern parts of Europe, Aſia, and America; but there are ſome animals that appear peculiar to America: theſe ſeem almoſt wholly deſtitute of the power of defence, their figure ungainly, their limbs ill proportioned. Some among them, as the little ant-bear, and the ſloth, appear ſo miſerably formed as ſcarcely to have the power of moving and eating; they ſeem only capable of maintaining their languid exiſtence in the moſt deſert ſolitudes; and hence, perhaps, they have been totally extirpated in thoſe countries that are more populous, or more largely furniſhed with the fierceſt beaſts of prey. Why the quadrupeds of America are generally found leſs, than thoſe of Aſia or Africa, may very naturally excite our enquiry: perhaps they are the progeny of ſome feeble kinds, that were beat out of the ſouthern parts of Aſia; or that, wandering to the north through ſcarcity of prey, or from any other cauſe, in ſome generations, became diminiſhed through the coldneſs of the climate, and paſſing over to America on the north, in it's cooler regions, have never regained their original magnitude; or that which diſtinguiſhes the ſame ſpecies of ſavages in the torrid wilds of Africa and Aſia; or perhaps, they are of a different ſpecies, and their kinds are extirpated in the more populous parts of the world. The ſerpents, however, and alligators, or crocodiles, in the warm rivers and ſwamps of the New World, ſeem pretty much the ſame with thoſe of the Old; and thoſe animals that are fond of the moſt cold and northern ſituations, as bears, deer, and wolves, ſeem exactly the ſame all around the Arctic Pole.

We might cloſe this little ſketch of the lower orders of the creation, and our deſultory courſe through the different quarters of the globe, by obſerving, that the birds, which are animals of paſſage and unconfined to ſoils, maintain their utmoſt magnitude and ferocity in the regions of America, as we find, eſpecially in the enormous condors, which

ſpread

ſpread an expanſe of wing of twelve feet from tip to tip, whoſe beaks are ſo ſtrong as to pierce the body of a cow, and two of theſe tremendous animals are able to devour it, they render the mountains terrible to birds, beaſts, and men; they ſometimes deſcend from their heights to ſpread deſolation and terror in the lower grounds, and when their prey happens to fail them upon land, they come down to the ſea-ſhore to feed upon dead fiſh, and ſuch other nutritious ſubſtances as the water throws up; that in America alſo birds of the ſmalleſt ſize are found, as the little humming bird, which inſerting it's bill into the cup of a flower, and ſucking out the juices, the powder or the pulp, while it keeps fluttering over it, ſeems to approach in ſize and manner to the bee: that the birds of the torrid regions are remarkable for the ſplendor and beauty of their plumage; and that thoſe of the temperate zone excel in ſong.

However, before we quit this entertaining part of geography, the view of the different tribes of the creation, which the life of man, and all the volumes he could write, would never fully unfold, it may perhaps be intereſting juſt to take a curſory ſurvey of their habits or manners, as they are influenced by their ſubjection to, or independence of, man, and by their aſſociations or animoſities with each other.

164. *Care of their Young.*] All the purſuits of the whole brute creation ſeem naturally to be directed to the preſervation of themſelves, and the propagation of their ſpecies; and every deviation from theſe appears to be but ſport, or a temporary relaxation from the buſineſs of their lives. It has become a proverbial ſaying, that ſelf preſervation is the firſt law of nature; the care of their young, however, ſeems happily, with ſome tribes of animals, a buſineſs of more importance than even the preſervation of themſelves. To defend theſe, they ſeem to brave every danger. The rapacious kinds, whether beaſts or birds, as the lioneſs and the eagle, acquire new terrors, and become more than commonly formidable, on this important occaſion. They undauntedly attack thoſe that annoy them, they prowl about for ſupplies for their ſavage and hungry brood, and bear away, to the neſt or den, their mangled prey, yet throbbing with life; thus early accuſtoming them to habits of ſlaughter. Even the weaker and more harmleſs races of animals ſeem to aſſume new habits, and acquire a courage and a conſequence unfelt before. The timid creature that would, at another time, flee in an agony of diſtreſs, on a diſtant appearance of danger, ſtays by it's young till their enemy is cloſe upon them, or it meets his approach, and ventures to give him battle, or throws itſelf in his way, and draws him on to follow it, thus decoys him to a diſtance from it's infant treaſure, then ſprings off at once, and mocks his vain purſuit. This latter deſcription of temporary courage, and little arts of illuſion, ſeems to hold with moſt of the feebler kinds of birds, and with the timid deer, and others of the fearful beaſts of the field. The amphibia and fiſhes ſeem moſtly a heedleſs tribe of creatures, leaving their ſpawn or eggs in the water, or on the banks, to be brought forth without their aſſiſtance, by the heat of the ſun's tepid beams: ſome, however, ſeem poſſeſſed of finer feelings; among fiſhes, the

the whale, with ſome others, ſhews a tender concern for it's young one, graſping it in it's fins, and bearing it off from the attacks of their enemies; and while the crocodile, among the amphibia, lies under the imputation of thinning the number of it's own young, in common with their numerous other devourers, the open-bellied crocodile is thought, like the opoſſum of the Weſt Indies, to afford a ſhelter to it's young ones, when in danger, in that extraordinary cavity or bag, which it has under it's belly, with it's opening outwards: it has been thought that it brings forth it's young ones alive, like the higher races of animals, and that it nouriſhes them in it's falſe belly, when they are yet too feeble to provide for themſelves. In theſe anxious ſolicitudes for providing for their young, the male among quadrupeds ſeldom bears a part; he ſeems oftener to prove a formidable enemy. Thus, among thoſe of the rapacious kinds, the lioneſs and tigreſs, with the greateſt caution, conceal their retreats from the males, to prevent them from devouring their cubs. It is otherwiſe with the feathered tribes of the creation; among them we may often ſee a beautiful leſſon of domeſtic fidelity. The male ſhares the labour of building the neſt, he induſtriouſly ſupplies proviſion to the hen, while performing the duty of incubation, or he takes her poſt while ſhe flies abroad in queſt of food for herſelf; while ſhe is on the neſt, he alſo acts the part of a truſty centinel, and cheers her with a ſong, with a note that informs her that no danger is at hand. If an enemy approach, his voice is ſuddenly ſtopt; and this is the ſignal that puts his mate on her guard. When the era which fulfils their patient expectations, and completes their happineſs, has at length arrived, and the callow brood burſts from the ſhell, the raptures of the male ſeem not leſs than thoſe of the mother. They both ſeem, at that ſeaſon, tranſported with pleaſure; every action teſtifies their pride, their importance, and tender ſolicitude.

This deſcription of connubial fidelity ſeems generally applicable to all the tribes of the fowls of the air, excepting ſuch as the cuckoo, that deſtroys the eggs of others, and leaves it's own in the place; and thoſe of the poultry kind; with theſe the tedious duty of incubation, and the care or protection of the young clutch, devolves entirely upon the hen, whoſe care at this ſeaſon is to avoid the cock as an enemy. Even the drake, in it's ſtate of liberty or wildneſs, is ſometimes known to ſupply the down from it's breaſt for lining the neſt, when that of the duck has failed, by it's having been often diſturbed while building.

The parental affection ſeems happily to hold no longer with the tribes of the brute creation, than the wants of their tender offſpring require their care and protection: when the young ones are fledged, and prepared for flight, the parent birds bring off their little charge, and ſhew them the place and manner of feeding; they reconduct them to the neſt, and backwards and forwards they practiſe them in this way, till they appear able to provide for themſelves; they then again lead them out, and leave them with the wide world before them, all connection ſeems to be at an end, and every one, ſingly, or uniting in flocks, prepares to ſhift for itſelf. Theſe manners are obſervable among the little ſongſters that make vocal the hedges round the habi-

tations

tations of man. Thoſe of the rapacious kinds, that build their neſts on inacceſſible clifts, and in diſtant ſolitudes, as the eagle and the falcon, though they mix not in flocks like other birds, yet live in pairs from year to year, with ſtrict fidelity, and mark out a rock for themſelves, not allowing others to encroach on their territories; their ferocious habits ſoon ſeem to overcome the feelings of the parent, they drive off their young at an early period to ſhift for themſelves, and when diſappointed of their prey, they ſometimes kill them in a fit of fury. But of all the feathered tribes of the creation, thoſe of the pie kind ſeem by far the moſt induſtrious, the moſt faithful, the moſt conſtant, and the moſt connubial; they live in harmony with each other, and cheriſh their young to the laſt. With reſpect to man, they ſeem rather noxious than beneficial; he often conſiders them as a chattering, noiſy, troubleſome ſort of neighbours, that only approach him, like robbers, to commit depredations on the fruits of his labours; but with reſpect to each other, no claſs of birds are ſo active, ſo ingenious, or ſo well fitted for ſociety. In fact, they ſometimes live in ſocieties; and in theſe are general laws obſerved, and a kind of republican form of government eſtabliſhed, they adminiſter caſtigation to refractory individuals, and join together to repel the ſtrangers that come to ſettle among them; if the emigrants however can fight their way, get a neſt built in their territories, and once enter on the duty of incubation, they are then conſidered as members of the ſtate, and remain in undiſturbed poſſeſſion of their acquiſitions. Of the pie kind are reckoned the magpye, the raven, the crow, the woodpecker, the parrot, &c. And of this kind is conſidered the ſwallow of Ternate, or the beautiful bird of paradiſe, which ſome have deſcribed as an inhabitant of the air, living only upon the dew of heaven, and never reſting below: as ſuch it appears in paintings or japanned wares, without either feet or wings, but with a long buſhy tail, and as ſuch it is preſented to us in Europe, when ſtuffed or preſerved, where we muſt not look for the remains or ſtumps of it's limbs, for fear of ruffling or tearing off it's beautiful plumage. Time, however, has diſcovered that this bird not only has legs, but very ſtrong ones for it's ſize; that the natives of the Molucca Iſlands, of which it is an inhabitant, being very little ſtudious of natural hiſtory, and perceiving the inclination the Europeans had for this beautiful bird, carefully cut off it's legs as it's greateſt deformity, before they brought it to market, and then aſſerted it had none. The birds of paradiſe, which in flocks enliven with their brilliant plumage the ſpicy foreſts they inhabit, being ſeen, like the ſwallow, almoſt ever on the wing, may appear ſome apology for European credulity. The phœnix of Arabia, almoſt every body has heard of, as a bird which lives for a thouſand years, then makes itſelf a bed of ſpices, as a neſt and funeral pile, commits itſelf to this, takes fire, and expires, another phœnix ſpringing out of it's aſhes, to be, contrary to the order of the creation, a ſolitary inhabitant of the globe, and the only one of it's kind for another thouſand years. Though it may, in theſe enlightened days, ſeem ſuperfluous to contradict this fabulous and unnatural hiſtory of the phœnix, it has been gravely treated of in former times,

and

and this romantic creature of the imagination been conſidered as a bird really exiſting.

Birds vary in building their neſts, according to the different temperature of the climate, the duties they have to perform, the materials they have to work upon, and the enemies they have to encounter with. Where the eggs are numerous, it is then incumbent to make their neſt warm, that the animal heat may be equally diffuſed to them all. Thus the wren, and all the ſmall birds, make their neſt very warm: on the contrary, the plover, that has but two eggs, the eagle, and the crow, are not ſo ſolicitous in this reſpect, as their bodies are capable of being applied to the ſmall number upon which they ſit. Some birds that with us make a very warm neſt, are leſs ſolicitous in the tropical climates, where the heat of the weather promotes the buſineſs of incubation: on the other hand, the water fowl, that with us make but a very ſlovenly neſt, are much more exact in this particular, in the colder regions of the north. They there take every precaution to make it warm; and ſome kinds ſtrip the down from their breaſts, to line it with greater ſecurity. They vary their neſts, according as they find a ſupply of materials. The red-breaſt, in ſome parts, makes it's neſt with leaves, where they are in greateſt plenty; in other parts, with moſs and hair. The ſwallow with us builds it's neſt with mud and graſs; on the coaſts of China and Coromandel, from the foam of the ſea water daſhing againſt the rocks, they gather a certain clammy, glutinous matter, perhaps the ſpawn of fiſhes; of this they build their neſts: theſe the Chineſe pluck from the rocks, and bring in great numbers to the Eaſt Indies to ſell. They are eſteemed there as great delicacies, and, when diſſolved in chicken or mutton broth, preferred far before oyſters or muſhrooms. But theſe varieties ſeem trifling, when compared with thoſe that the fear of an enemy produces. The penguin, a bird of far more waddling gait than a duck, with it's body ſo heavy and it's wings ſo ſhort, that it can ſcarcely fly at all, while it ſeems better adapted than any other fowl for living in the water, like moſt other water fowls, in ſolitary parts, makes a ſmall depreſſion in the ground ſerve for it's neſt: it is otherwiſe, where it has been diſturbed; in ſome parts it burrows in the ground like a rabbit; in others, the awkward creature makes a ſhift to clamber to the ledge of a rock, where it may neſtle and bring forth in ſecurity. The females lay their ſingle egg in a common neſt, and ſit upon this, their general poſſeſſion, by turns; while one is placed as a centinel to give warning of approaching danger. The woodpecker, that with us bores itſelf a hole for a neſt in a ſoft or decayed tree, with it's ſharp ſtrong beak, has with other birds recourſe to very different arts in the tropical climates. In the foreſts of Guinea and Braſil, the monkey and the ſnake are the bird's greateſt enemies. The monkeys inhabit the tops of the trees; the larger ſnakes twine round the trunks, and carry on unceaſing war with each other. To avoid theſe formidable and miſchievous enemies, the wary little architect flies buſily about in queſt of a fine kind of moſs; this it firſt glues, by ſome viſcous ſubſtance gathered in the foreſt, to the extremeſt branch or leaf of a tree; then building downward, and ſtill adding freſh materials to thoſe already procured,

a net

a net is formed, that depends, like a pouch, from the point of the branch; the hole to enter at is on the ſide, and ſometimes below like a funnel or chimney. The interior parts, where their little treaſure is depoſited, are lined with the finer fibres of the ſame ſubſtance, which compoſe the whole. The neſt hangs before the ſpoilers, a tempting object, which they can only gaze upon, while the gaily-plumed birds fly in and out, without danger or moleſtation from ſo formidable a vicinity.

165. *Animoſities, Aſſociations.*] As, according to the preſent conſtitution of this world, while ſome harmleſs creatures live on vegetable fare, others, of more ſavage nature, prey upon theſe; ſo, wherever we turn our eyes upon living creatures, whether beaſts, birds, fiſhes, or inſects, we generally ſee in their habits or manners, the rueful picture of violence and evaſion, from the lion in the foreſt, to the cat on the hearth, and from the eagle on it's airy cliff, to the ſpider in the wall, tearing the helpleſs to pieces. The ſmaller kinds, however, and thoſe that are moſt expoſed to be preyed upon, ſeem by far the moſt fertile; and thus their kinds are preſerved from generation to generation, notwithſtanding the ſlaughter they are continually expoſed to.

The aſſociations among the brute creation, except thoſe for preſerving their ſpecies, ſeem to be few; thoſe of the moſt rapacious kinds, as the eagle and the hawk, and the lion and the tiger, with all the other quadrupeds of the cat kind, ſeem averſe from ſociety, and like robbers, enjoy the fruits of their violence in ſolitude. Gramenivorous animals, both beaſts and birds, ſeem more ſocially diſpoſed; they are generally ſeen feeding together in herds and in flocks; dogs alſo ſeem naturally to unite in packs, in hunting their prey. Animals of the whale kind combine to drive other fiſhes into one another's jaws, or into ſituations, where they can eaſily devour them. In the pigeon-houſe and the rookery, we ſee a ſort of ſociety; and, even among inſects, in the republic of ants, and the monarchy of bees, a kind of eſtabliſhed polity. But of all the aſſociations, that exiſt among the tribes of the brute creation, that of the beavers ſeems the moſt ingenious, the moſt orderly, and the moſt nearly approaching to the manners of the moſt refined nations of mankind. The beaver is ſomewhat ſhaped like a rat, about two feet long, and nearly one foot high: it's fore-feet ſupply the place of hands, as in the ſquirrel; it has membranes between the toes, on his hind-feet, and a broad, flat, and ſcaly tail for the purpoſe of ſwimming. The beavers begin to aſſemble about the middle of ſummer, to form a ſociety that is to continue for the greateſt part of the year; they generally form a company of above two hundred members. The place of their meeting is commonly by ſome water ſide; if it be a lake, in which the waters are always upon a level, they diſpenſe with building a dam; but if it be a running ſtream, which is ſubject to floods and falls, they then ſet about building a dam or pier, that croſſes the river, and forms a dead water; this dam or pier is often fourſcore, or an hundred feet long, ten or twelve feet broad at the baſe, and two at the top; the declivity is on that ſide oppoſed to the water, the other ſide of the dam is perpendicular like a wall:

wall: the part of the river over which this dam is uſually built, is where it is moſt ſhallow, and where ſome great tree is found growing by the ſide of the ſtream; with no other inſtruments but their teeth, they ſoon lay this level, and in ſuch a way, that it always falls acroſs the ſtream, and ſerves as the principal beam of their fabric; with their teeth alſo, they cut down ſtakes of different lengths, and drive them into the ground, at a ſmall diſtance from each other, intermingling with them, thoſe that are ſmaller and more pliant, and ſtopping all the cavities, both within and without with clay, ſo that the water is duly confined. They continue to raiſe the dyke in proportion to the elevation of the water, and the plenty which they have of it: they are conſcious, likewiſe, that the conveyance of their materials by land would not ſo eaſily be accompliſhed as by water; and therefore they take the advantage of it's increaſe, and ſwim with their mortar on their tails, and their ſtakes between their teeth, to the places where there is moſt occaſion for them. If their works are, either by the force of the water or the feet of the huntſmen, who run over them, in the leaſt damaged, the breach is inſtantly made up, every nook and corner of the habitation is reviewed, and, with the utmoſt diligence and application perfectly repaired; but when they find the huntſmen viſit them too often, they work only in the night time, or elſe abandon their works entirely, and ſeek out for ſome ſafer ſituation.

When the dyke or mole is completed, the ſolidity of which is ſtill more aſtoniſhing than even the ſize, their next care is to erect their ſeveral apartments, which are either round or oval, and divided into three ſtories, one raiſed above the other; the firſt below the level of the cauſey, which is for the moſt part full of water; the other two above it. This little fabric is built in a very firm and ſubſtantial manner, on the edge of their reſervoir, and always in ſuch diviſions or apartments as above mentioned, that in caſe of the water's increaſe, they may move up a ſtory higher, and be no ways incommoded. When they have built their lodges, they mix up ſome clay and dry graſs together, they work it into a kind of mortar, and with this, by the help of their tails, they plaiſter all their works, both within and without. Eight or ten beavers live in one houſe. If the number of the inhabitants increaſe to fifteen, twenty, or thirty, the edifice is enlarged in propotion: it ſeems, even four hundred beavers have been diſcovered to reſide in one large manſion-houſe, divided into a vaſt number of apartments, that had a free communication one with another. The beavers, during the ſummer, are perfect epicures; and regale themſelves every day on the choiceſt fruits and plants the country affords; in winter they eat the wood of the birch, the plane, and ſome few other trees. They have magazines, or wood yards, wherein they lay up their winter's proviſion; in procuring of this, each takes a different way, and has his proper walk aſſigned him, in order that one labourer ſhall not interrupt another in the proſecution of his work: the ſmaller branches are brought home by the individuals ſingly, that gnawed them down; thoſe of larger dimenſions are conveyed to the ſtore-houſe by a whole body of the beavers. Theſe logs are not thrown up in one confuſed irregular heap, they are piled up one acroſs another,

with intervals between them, in order to take out, with the greater facility, but juſt ſuch a quantity as they ſhall want, for their immediate conſumption, and thoſe parcels only, which lie at the bottom of the water, and have been duly ſteeped. This timber is cut again in ſmall pieces, and conveyed to one of their largeſt lodges, where the whole family meet to conſume their reſpective dividends, which are made impartially, in even and equal portions. Sometimes they traverſe the woods, and regale their young with a more novel and elegant entertainment. Such is the picture of brutal ſociety, the manners of theſe little animals preſent in the remote parts of America, and where, undiſturbed by man, they have an opportunity of aſſociating together; on the other hand, where he makes his appearance, and the dread of his preſence breaks up the ſociety, the timid little creatures each individually ſtrives to ſhift for itſelf. Their talents are entirely repreſſed by ſolitude. The beaver, when alone, has but little induſtry, few tricks, and it is without cunning ſufficient to guard it againſt the moſt bungling ſnares laid for it by the hunters.

166. *Influenced by the Human Race.*] We may now cloſe this ſketch of the earth, by conſidering the different orders of living creatures, as they are particularly influenced by the domination of man, or as they call forth his arts, to ſubdue them to his ſervice, or to ſuppreſs their hoſtilities; and in this intereſting view the ſcene is highly diverſified. It has been imagined, there is ſomething peculiarly auguſt in the upright figure of man; ſomething that naturally ſtrikes the moſt ſavage beaſts of the foreſt with awe, and teaches them ſubmiſſion to the lord of the earth; it is found, however, he owes more of his ſuperiority to his intellectual powers, than to any advantages he derives merely from his outward form; and, accordingly thoſe animals, which have not yet become acquainted with his proweſs, and which have only been accuſtomed to engage with creatures of inferior ſtrength, meet his firſt attacks with the moſt hardy preſumption. The albatroſs and the whale only flee from his preſence, when they have learned, by fatal experience, the ſuperiority of his arms; the bear, in the moſt ſolitary regions of the north, and the ferocious animals of the unpeopled deſerts of the Torrid Zone, at firſt meet man without fear; thus the lion of Zaara, accuſtomed only to conquer, ventures ſingly to attack a caravan, conſiſting of thouſands, and, when repulſed by numbers, and obliged to retreat, he ſtill continues to face his purſuers; it is otherwiſe in the moſt populous part of Africa, where he has been often courſed down by the hardy inhabitants; there his dread of the human kind is ſo great, that the ſight of a child puts him to flight. It has been remarked, that, in all countries, as man is civilized and improved, the lower ranks of animals are repreſſed and degraded; either reduced to ſervitude, or treated as rebels, all their ſocieties are diſſolved, and all their united talents rendered ineffectual; their feeble arts quickly diſappear, and nothing remains but their ſolitary inſtincts, or thoſe foreign habitudes which they receive from human education; thoſe whoſe ſavage or timid natures admit not of domeſtication, ſeek, in the moſt diſtant receſſes of the foreſt, or the moſt impregnable faſtneſſes of the mountains, protection from an enemy, whoſe

whoſe ſuperior ſagacity diſcovers their little arts, and finds out their retreats; who entraps them with his ſnares, when not preſent himſelf, and who undiſcovered ſlays them at a diſtance. Thoſe which have been brought to domeſtication or ſervitude, have loſt, with their native ſpirit, much of their original habits and forms: we may perhaps diſpute however, whether domeſtication has invariably degraded the lower ranks of animals. Some, under the care and protection of man, ſeem to have increaſed in ſize, in ſtrength, and in ſwiftneſs; and thoſe that he has treated with familiarity and affection, as the dog and the horſe, ſeem to have acquired a courage and a generoſity they never knew in the foreſt: thus, horſes and dogs, animated by the preſence and ſhouts of the hunters, are brought to attack and purſue the moſt formidable animals; even the tremendous lion, the glare of whoſe eyes would have petrified them with horror, or made them to flee in an agony of diſtreſs, when in a ſtate of wildneſs, they freely encounter, when encouraged by the company of man.

It ſeems, indeed, that man maintains much of his dominion over the different tribes of the brute creation, and effects many of his greateſt works and deſigns, by the help of theſe two faithful domeſtics: in the tending of flocks and tilling the ground, they alleviate his labours; and, in countries where he combats with the hoſtile kinds of animals, or draws much of his ſubſiſtence from the capture of the timid creatures, that run wild in the foreſt, in his horſe and his dog he finds willing partners in his toils: theſe, however, are far from being the only ſharers in his labours and purſuits; and our conceptions of what he has effected, in ſubjecting the tribes of the brute creation to his ſervice, will be very confined and inadequate, if we take our idea merely from what we have an opportunity of obſerving in our own particular age and country; in fact, there does not appear to be any kind of animals, but what he has brought to feel his ſuperiority; they have been made not only to ſupply his neceſſities, but alſo to furniſh him luxuries and ſuperfluities; and what is moſt extraordinary, he has made almoſt every kind, except fiſhes and inſects, yield to his orders, and, while living, perform him duties, or contribute to his amuſements. Apes have, in Africa, been made uſeful domeſtics, and ſet to pounding at a mortar, and to carrying water. The elephant and the rhinoceros have not found protection in their ample ſize and prodigious ſtrength; they have been taken and tamed: crocodiles have been drawn from their watery beds, and bred up tame in ponds, for the diverſion of the kings of Africa and Siam; lions have been made to draw the triumphal chariots of conquerors, and tigers to protect thoſe flocks, which, in a ſtate of wildneſs, it was their ſupport to devour. The Aſiatic hunters have brought even the panther, the ounce, with others of the ſpotted ſavages of the tropical climates, to aſſiſt them in the chaſe, as the ferret is uſed in catching rabbits; the otter, when taken young, is taught to fiſh for it's keeper, and amply rewards him for his trouble in rearing it. It is not the cat alone that has been domeſticated, and employed in ridding houſes of vermin; ſerpents have been kept for ſimilar purpoſes, and ſeveral little animals of the weazel kind; of theſe the boldeſt and moſt uſeful is the ichneumon of Egypt. The ichneumon,

with the ſtrength of a cat, has more inſtinct and agility, a more univerſal appetite for carnage, and a greater variety of powers for procuring it. Rats, mice, birds, ſerpents, lizards, and inſects, are all equally purſued; it attacks every living thing which it is able to overcome, and indiſcriminately preys on fleſh of all kinds. It's courage is equal to the vehemence of it's appetite; it fears neither the force of the dog nor the inſidious malice of the cat; neither the claws of the vulture nor the poiſon of the viper; it makes war upon all kinds of ſerpents with the greateſt avidity, ſeizes and kills them, how venomous ſoever they may be; and we are told that when it begins to feel the effects of their rage, it has recourſe to a certain root which the Indians call after it's name, and aſſert to be an antidote for the bite of the aſp or the viper. This animal is found in great numbers in all the ſouthern parts of Aſia, from Egypt to Java; and it is alſo found in Africa, particularly at the Cape of Good Hope; it is very ſerviceable to the Egyptians, in diſcovering and deſtroying the eggs of the crocodile; it alſo kills the young ones that have not as yet been able to reach the water; and, as truth goes often hand in hand with fable, it hath been reported, that it even enters the mouth of the crocodile, when it finds it ſleeping on the ſhore, boldly attacks the enemy in the inſide, and at length, when it has effectually deſtroyed it, eats it's way out again.

Birds, from their power of flying up on high, we might ſuppoſe quite beyond the reach and dominion of man; beſides the fowls, however, which he has tamed as proviſions for his table, and thoſe that in the cage amuſe him with their notes, he has reduced to his obedience even the eagle, the falcon, and the owl, and taught them to aſſiſt him both in fowling and the chaſe: in like manner alſo, among the water fowl, he has taught the pelican and the cormorant to ſupply him with fiſh as well as themſelves.

To tell the arts whereby man has reduced the many and varied tribes to his ſervice; to deſcribe the various manners of capture he makes uſe of, whether he takes them by ſtratagem, hardineſs or force, would require whole volumes, and unnumbered are the treatiſes that have been written on theſe ſubjects. We have already ſeen how he calls in one kind of animals to help him in purſuit of another: there is another method he practiſes with equal and even greater ſucceſs; this is by ſetting tamed animals to allure wild ones of the ſame ſpecies into the ſnares he has laid for them; in this manner ducks are taken by thouſands in decoys; and in this manner the elephant, wiſeſt of brutes, is brought from the foreſts, and made a willing ſervant, attached to it's keeper, intelligent in underſtanding, and faithful in obeying him.

167. *Proweſs of Man.*] Thus we ſee that all the lower claſſes of animals, whatever may be their powers, when oppoſed to each other, are brought to feel the ſuperiority of man. This lord of the creation maintains his dignity among living creatures, alike in the cold frozen regions of the north, and in the hot and burning deſerts of the Torrid Zone. The ſavage and hoſtile tribes of creation may for a while hold his empire in diſpute, but their oppoſition and their force ſeem but to ſerve to awaken his ingenuity, and to call his powers into action, rather than to repreſs them. Thoſe that fall under his protection

tion, from the earlieſt period of their lives, as the tame ox and aſs, are, through long domeſtication brought to know their owner and their maſters's crib; upon thoſe that he brings roaring or bellowing from the foreſt, and upon thoſe that he brings down ſcreaming from their airy flights, he at firſt impoſes the ſeverity of famine, watching and fatigue, to ſuppreſs their ſavage habits, and reduce them to obedience; he holds, at his own diſtribution, the rewards of their ſervices; he ſupplies them with their food, and ſecures their attachment; or he ſcours with alacrity the wilds they inhabit, deals death among them, and converts their ſpoils to his uſes. The roaring of the ocean ſtays not his purſuits; he draws the creatures from the deep; and, with a hardineſs ſtill more deſperate, he climbs the craggy cliffs; or, lowered from the airy tops of tremendous precipices, that overhang the waters, he ſeeks the neſt of the unnumbered water-fowl, that, flutterring, chattering, croaking, or ſcreaming, fill the air with their cries. From dangers of this kind he, in many parts of the world, draws the principal means of his ſupport; and as labour produces health to thoſe who have to endure it; ſo thoſe, whoſe ſituations expoſe them to particular hardſhips, acquire peculiar habits of courage and agility, become fitted for, and partial to, their own particular ſituation, and enjoy it, without repining at the ſeemingly happier and eaſier lot of others.

PART IV.

REVOLUTIONS THAT HAVE HAPPENED IN THE PRINCIPAL EMPIRES OF THE WORLD.

SECTION XVII.

Ancient and Modern Hiſtory.

THE melancholy retroſpect, that hiſtory affords of the calamities of paſt ages, has been much augmented through the depraved taſte of men, who have, in all ages, ſince the practice of war was introduced upon earth, unhappily laviſhed the bewitching reward of praiſe on the deſtroyers of men; and the eager deſire for falſe glory, which has ſtimulated poor mortals to their mutual deſtruction, and neceſſarily ſwelled the hiſtoric page with rueful feats of arms, ſeems to have almoſt precluded, from the records of antiquity, any account of the ſweet fruits of peace: nations have ſeldom deſired to be accounted an inglorious people, living in quietneſs and eaſe, while their exploits in battle have been extravagantly delineated. The pious philoſopher, ſpending his time and himſelf for the good of mankind, the huſbandman, mechanic, and phyſician, with all their uſeful labours, cut but a poor figure in the annals of time; while the hero, the man of war, riſes glaringly to view, mounted on trophies, the wreck of nations; hence hiſtory, to a feeling mind, will appear little more than a catalogue of human woes. In one page we often ſee thouſands devoted to the ſword, and the victor's triumph, raiſed at an expence of blood, which a remote nation mourns with floods of tears; while the ſweet intervals of peace, which all nations have probably enjoyed a greater ſhare of, than a meer ſuperficial view of hiſtory would encourage us to believe, have often been paſſed over in ſilence, and buried in oblivion.

168. *The*

168. *The largeſt Diviſions of Time.*] According to the hiſtory of the Hebrews, the period before the flood was 1656 years; the interval from that time to the Chriſtian epocha, was 2348 years; from the creation, then, till the Chriſtian era, according to this chronology, the ſpace of time was 4004 years; to which, if we add the years that have ſince elapſed, we have the period which includes all the ages of mankind.

169. *A very ſhort Hiſtory of the World.*] It has been conjectured that Fohi, the founder of the Chineſe nation was Noah, who retired eaſtward with his family, from his vain and preſumptuous offspring attempting to build a city on the plain of Shinar, and a tower, whoſe top might reach unto heaven, and to eſtabliſh to themſelves a name. We read that their deſigns were fruſtrated, their language confounded, and they themſelves ſcattered over all the face of the earth; and this has been conſidered as the beginning of the different nations, tongues, and people upon earth.

Languages and people appear to have continually fluctuated ſince mankind firſt became divided into nations. Sometimes neighbouring nations have, from their vicinity, naturally commixed in ſpeech and manners; often they ſeem to have rudely jumbled together in the diſtraction of war; ſometimes a people has been rent in pieces by inteſtine diviſions; at others they have been obliged to bow to a foreign yoke; generally the conquerors have impoſed their language and their manners, together with their government, yet ſometimes the rude ravagers of a refined and ingenious people have thought it worth their while, to copy the manners and improvements of the vanquiſhed.

Nearly 2000 years before the Chriſtian era, Abraham was born. The Arabians are thought to be the deſcendants of his ſon Iſhmael, as the Jews are the offspring of his ſon Iſaac.

Nearly 1500 years before the Chriſtian era, the Hebrews eſcaped from the bondage of the Egyptians, about which time, Cadmus introduced the uſe of letters, and Danaus that of ſhipping into Greece. Troy was built a little before this period. Sparta, Thebes, and Athens were founded; and the Olympic Games were inſtituted a little after it.

Solomon reigned on the throne of Iſrael 1000 years before the Chriſtian era; at which time, the ſtates of Athens and Thebes had ſet aſide monarchy, and became republics: and the other ſtates generally followed their example. It was more than 100 years before this, that Troy was burnt, and 100 years after it, that Carthage was built.

When Rehoboam, the ſon of Solomon came to the throne, the ten tribes of Iſrael revolted, Benjamin only remaining with Judah, and 721 years before the Chriſtian era, they were ſubdued, and ſcattered abroad by the Aſſyrians, under Shalmaneſer; 32 years before which, the city of Rome was founded.

The Jews were in captivity, in Babylon, 600 years before the Chriſtian era, under Nebuchadnezzar; 500 years before it, they were again in poſſeſſion of Jeruſalem, under Cyrus; 300 years before it, they were under Alexander; 100 years before it, they were, under the Maccabees, independent of foreign powers, at the commencement

of the Chriſtian era, they were under the Romans, and in the year 72, the ſiege and deſtruction of Jeruſalem took place.

In the firſt century, the Roman empire was at it's greateſt extent; in the fifth, the weſtern part of it was overrun by the Goths, Vandals, Saxons, Huns, &c. England falling to the ſhare of the Saxons; and in the ſeventh, the eaſtern part of it, was much reduced by the conqueſts of the Mahometans.

In the 13th century, the Chriſtians and Mahometans were deſtroying one another, for the poſſeſſion of Paleſtine, and at the ſame time, the Tartars were making the moſt dreadful havock of the human race. In the 14th century, the Chriſtian powers were driven out of Aſia.

In the 15th century, the Turks took Conſtantinople, and thus demoliſhed the laſt remains of the Roman or Greek Empire; ſince which time, the Chriſtians, bent upon miſchief, have committed it on a larger ſcale, and with greater impunity. It is enough to ſay, in proof of this, that they found the way to India, by the Cape of Good Hope, and diſcovered America, in the latter part of the 15th century.

SECTION XVIII.

Ancient Hiſtory, containing an Account of the principal Revolutions of Empire in Antiquity.

Having paſſed, with rapid ſtrides, through the different ages of mankind, and glanced in the moſt haſty way, at ſome principal events, which have marked different periods, we may now enter a little more into the detail of hiſtory; ſtill, however, endeavouring to paſs haſtily along, only noticing the leading events, more particularly the great revolutions which have agitated the earth, or the riſe and fall of the principal empires in the world.

In the moſt remote antiquity, we may principally have reference to the hiſtory of the Hebrews: indeed, that is almoſt the only clue we have to lead us through thoſe obſcure ages.

The influence of the Romans was ſo great, when at the height of their power, over the other nations of the earth, that the hiſtory of that people, for a time, is as the hiſtory of the world. During this period, we may principally have regard to the Roman hiſtory.

In later times, we may chiefly notice the diſputes between the Chriſtian and Mahometan world; the ravages of the Tartars; and ſome more recent occurrences, in Europe, and the Weſtern World.

170. *Diſpute of the Scythians and Egyptians.*] In the days of the patriarch Abraham, it appears there were ſeveral empires founded in earth, as thoſe of Babylon, Nineveh, Egypt, Aſſyria, and Perſia. It is likely that the Scythians alſo were, at this time, a people inhabiting vaſt tracts in the northern regions of Aſia, and under their own government, though their manner was to wander about as choice or neceſſity directed, carrying with them their families and tents; for while the Jews traced their deſcent, through every generation from Adam, the Scythians

diſputed with the Egyptians the honour of antiquity. The Egyptians argued, that their country was peculiarly favourable to animal life; that the moiſture of the ſoil, together with the warmth of the climate, naturally produced living creatures, and as a proof of this, they referred to the mud of the Nile, which does, no doubt, at certain warm ſeaſons teem with life, from the vaſt quantities of ſpawn and eggs, depoſited there by fiſhes, crocodiles, and very probably birds too, as the oſtrich, &c. they concluded then, that man muſt have firſt grown in Egypt, and that he could never have ſuſtained the colds of Siberia, till the art of making houſes and cloaths was firſt found out.

On the other hand, the Scythians ſaid, that men were naturally fitted for the countries, wherein they were born; that therefore cloaths were not more neceſſary for them than the Egyptians; that if fire at firſt had poſſeſſion of the earth, as ſome ſuppoſed, their country would be habitable before that of Egypt, the heat being naturally expelled from the northern regions firſt; but if water originally covered the earth, their country, being high land, would firſt be dry, while that of the Egyptians, lying low, ſtill abounding with fens and marſhes, and which is with great labour, by fences and banks, kept from being overflowed, would be the laſt of all places peopled. So the Scythians had the romantic honour of being accounted the original or firſt people. This hardy race, hiſtory tells us, wiſely preferred the ſolicitudes and pleaſures of domeſtic life, in their native wilds, before the din and cruelty of war, with all the deluſive viſionary honours it can confer on it's moſt ſucceſsful champions. It ſeems, notwithſtanding this, that thoſe inſtruments which they expertly uſed in the chaſe, they could dexterouſly handle, when attacked, in defence of themſelves, their wives and families; and the Egyptians, we are told, in a very remote period of antiquity, having invaded their borders, were repulſed, purſued, and at length, ſubdued in their own native fens; the Scythians, on their return, during 15 years, making a general conqueſt of Aſia.

171. *Revolutions in Antiquity, and their Effects on the Hebrews.*] In the early ages of mankind, when the earth was covered with foreſts, which teemed with wild beaſts, hunting was a principal employment of the people; and the hardy, and the bold, in the deſtruction of theſe creatures, were juſtly conſidered, as the deliverers of their country. In the Gentile world, they were deified; and with the Hebrews, their acts were recorded. Sampſon and David had encounters of this ſort, and were ſucceſsful; and Nimrod, the ſon of Cuſh, the ſon of Ham, whoſe father was Noah, was accounted a mighty hunter before the Lord. This hero acquired ſuch influence over the people, in his day, that he founded at Babylon, the firſt monarchy, which is particularly mentioned in hiſtory. This was 2447 years before the Chriſtian era. Not long after this, the four governments of Thebes, Theri, Memphis, and Tanis, were eſtabliſhed in Egypt. About the ſame time, the foundation of Nineveh was laid by Aſſur, whoſe ſucceſſor, Ninus, added Babylon to his dominions, and, aſſiſted by his wife and enterpriſing ſucceſſor, Semiramis, laid the foundation of that monarchy, which, under the name of the Aſſyrian empire, ruled over the other parts of Aſia, for many ages. This appears to have been an interval

of

of peace to the Aſſyrians; for, from the reign of Ninias, the ſon and ſucceſſor of Semiramis, and cotemporary of Abraham, there is almoſt a blank in their hiſtory, for no leſs than eight hundred years. In the latter part of this interval, the Canaanites were driven out from their country, by the children of Iſrael; and near the cloſe of it, the city of Troy was demoliſhed by the confederated Greeks.

At a very early period, the practice of war took place upon earth. In Abraham's days, kings were numerous, and the people were involved, as they have continued to be, till this day, in the quarrels of theſe men.

Bera, king of Sodom; Birſha, king of Gomorrah; Shinab, king of Admah; Shemeber, king of Zeboim; and the king of Belaor Zoar, were joined together in the vale of Siddim. Twelve years they ſerved Chedorlaomer, the king of Elam, or Perſia; and in the thirteenth year, they rebelled. And in the fourteenth year, came Chedorlaomer, and the kings that were with him, Amraphel, king of Shinar; Arioch, king of Ellaſar; and Tidal, king of nations, and ſmote the Rephaims, and the Zuzims, and the Horites, and all the country of the Amelkites; and alſo the Amorites. And there went out the kings, which had revolted, and they joined battle with them, in the vale of Siddim; and the kings of Sodom and Gomorrah fled, and fell there: and they that remained, fled to the mountain. And when Abraham heard that Lot, his brother's ſon, was taken captive, he armed his trained ſervants, born in his own houſe, three hundred and eighteen, and purſued them unto Dan. And he brought back all the goods, and alſo brought again his brother Lot, and his goods, and the women alſo, and the people. And the king of Sodom went out to meet him, after the return from the ſlaughter of Chedorlaomer, and of the kings that were with him. And Melchizedek, king of Salem, brought forth bread and wine.

The kingdom of Egypt was founded ſo early as 2188 years before the Chriſtian era, by Mizraim, the ſon of Ham; and when Abraham went down there to ſojourn, becauſe of the famine which was in the land, the princes of Pharaoh were ſolicitous to miniſter to the pleaſures of their monarch; and the different governments, into which the country had been divided, were united under him. About two centuries after this, when Jacob came into Egypt, the country was divided into ſeveral diſtricts, or ſeparate departments, councils were eſtabliſhed for the management of public affairs; granaries for preſerving corn were elected; and the people carried on a conſiderable trade. The children of Iſrael found favour with the Egyptians, till the death of Joſeph, when they were grievouſly oppreſſed, and held in ſlavery for two centuries and a half. Seſoſtris, a prince of great abilities, is ſuppoſed to have mounted the throne of Egypt, on the death of Amenophis, who was loſt in the purſuit of the Hebrews, about the year 1492, before the Chriſtian era. In his time, and in that of his immediate ſucceſſors, the government is ſaid to have been well conducted, and the number of inhabitants is ſuppoſed to have amounted to 27,000,000. Egypt ſuffered various revolutions, from the coming in

in of the Canaanites, whom Joſhua expelled from their country, and from their conteſts with their neighbours, the Ethiopians.

In the days of Solomon, Seſoſtris, king of Egypt, is ſaid to have extended his arms, with ſucceſs, weſtward to Spain, and eaſtward to Perſia; but the vanity of triumph, or a thirſt for plunder, rather than a deſire for empire, ſeems to have been his motive: this probably, like that of the Scythians, in their excurſion to Egypt, was but a flying conqueſt, marked with no further veſtiges of the vagrant conquerors, than the ruinous havock made by their deſtructive ravages. From this period, however, the deſign of nations, generally ſeems to have become more extenſive, than any thing their predeceſſors had ever imagined. The deſign of each, for ſeveral ages, appeared to be nothing ſhort of univerſal dominion; and accordingly we find the government of the Eaſt, ſucceſſively in the hands of the Aſſyrians; of the Medes, and Babylonians; of the Perſians; of the Macedonians; of and the Romans,

In moſt of theſe revolutions, the Hebrews were involved. When the leaders, Moſes, and, after him, Joſhua were dead, the people of Iſrael had judges, for ſeveral centuries. At length the judges, the ſons of Samuel, took bribes, and perverted judgment. Then the elders deſired Samuel to make them a king, to judge them like all the nations; and when the prophet remonſtrated with them, the people ſaid, nay, but we will have a king over us, that may judge us, and go out before us, and fight our battles. This was nearly about the time of the death of Codrus, when the Athenians aboliſhed the regal power, and proclaimed that none but Jupiter ſhould be king at Athens. Saul was appointed to reign over them. After Saul, David was appointed king over Iſrael: this is he who, when but a ſtripling, ſlew Goliah, the giant champion of the Philiſtines; it was he took Jeruſalem from the Jebuſites, which cotinued afterwards to be the capital of Judea. Solomon ſucceeded his father David, in the government of this people; he built, at Jeruſalem, the celebrated temple, which had no leſs than 163,300 men employed in the work, and yet it was ſeven years in building; according to ſome, the height of the principal tower from the ground, was above one thouſand feet; and, by Joſephus's account, the ſtones of which the buttreſſes of the building were compoſed, were about eighty feet long, twenty-four thick, and ſixteen high, of ſuch exquiſite workmanſhip, that when put together, they appear like one continued poliſhed rock of marble; and we read that the houſe, when it was in building, was built of ſtone made ready before it was brought thither: ſo that there was neither hammer nor axe, nor any tool of iron heard in the houſe, while it was building.

172. *Separation of Ten Tribes.*] Upon the death of Solomon, all Iſrael were come to Shechem to make his ſon, Rheobbam, king; but he rejecting the advice of the old men that ſtood before Solomon, his father, while he yet lived, anſwered the people roughly, and ſpake, after the counſel of the young men, in threatening words: ſo when all Iſrael ſaw, that the king hearkened not unto them, the people anſwered the king ſaying, What portion have we in David? neither have we inheritance

heritance in the ſon of Jeſſe: to your tents, O Iſrael; now ſee to thine own houſe, David: ſo Iſrael departed unto their tents. It ſeems the general idea that Judah and Benjamin only adhered to Rheoboam; that the other ten tribes, falling into idolatry, were, in leſs than 300 years, carried into captivity by the Aſſyrians, ſcattered abroad, and never afterwards gathered. It appears, however, that a remnant of the people remained ſtedfaſt to the houſe of David, and the ſons of Aaron, with others of the tribe of Levi, continued to offer ſacrifice in the temple of Jeruſalem, when Iſrael was generally overrun with groſs idolatry.

173. *Captivity of Judah, Return, &c.*] In leſs than 400 years after the diviſion of Iſrael, the Jews alſo, having departed from the law and the teſtimonies to the idolatry of the nations, were ſwallowed up in the general conqueſt which Nebuchadnezzar made in the nation; their temple was burnt, the wall of Jeruſalem broken down, and they themſelves carried captive to Babylon; there they ſat down by the rivers, they wept, they hung their harp upon the willows, they remembered Zion.

In the days of Cyrus, king of Perſia, and conqueror of Babylon, and the other eaſtern nations, about 536 years before the Chriſtian era, the Jews returned from the captivity, repaired the wall of Jeruſalem, and rebuilt the temple. When the foundation of this houſe was laid, many ſhouted for joy; but others of the prieſts and Levites, and the chief of the fathers, who were ancient men, that had ſeen the firſt houſe, wept with a loud voice.

The government in ſubordination, ſucceſſively, to Perſia, Alexander, and his ſucceſſors, devolved upon the prieſthood, which ſoon became corrupt: we are told, that a ſtatue was erected on the altar in the temple, and ſacrifices offered to the Jupiter Olympus. When the Jews had now many of them, through great perſecution, departed from the law, and embraced idolatry, Mattathias being called upon to abjure the religion of his fathers, it is ſaid to have been his declaration, that though all his nation and people ſhould depart from the law, yet would not he; and ſeeing one of his countrymen about to ſacrifice on the altar of an idol, he ſlew him, as was ordered in the law by Moſes, and ſoon found himſelf at the head of an army of his countrymen, ſpirited by his example. His ſons were the Maccabees, under whoſe government the Jews became independent, and continued ſo, till they became tributary to the Romans, under whom alſo they ſometimes had their own kings.

174. *Coming of Jeſus.*] It was, when the Romans, having proved every where victorious, had extended their conqueſts over the known world; when a general peace had ſucceeded the rude ravages of war; when Judea was reduced to a Roman province, (yet the people left in the uninterrupted practice of their worſhip in the temple) in the days of the Herods, kings of Judea, when Auguſtus, and, after him, Tiberius, were emperors at Rome, that Jeſus appeared.

Before his time the bodies of beaſts had ſmoked upon the altars of both Jew and Gentile; and the Supreme Being had been repreſented by the former as the Lord of Hoſts; by the latter, under various ſymbolical

bolical and distorted forms, and with contradictory epithets. The meek and lowly Jesus represented the Supreme Being to the people, under the affecting and engaging title of their Heavenly Father, and inculcated the evangelical principles of peace, unlimited forgiveness of injuries, and universal benevolence. But the Jews despised the low appearance of the son of man, laid violent hands on him, and crucified him.

The Jews did not all, however, reject his doctrines; of his nation there were many, who, in declaring them to Jew and Gentile, sealed the truth of their testimony with their blood.

175. *Roman War, and Siege of Jerusalem.*] In the year 67 began the war with the Romans, which only terminated in the destruction of Jerusalem, and the subversion of the Jewish nation. At first their successes were various, and in their mutual contests thousands were slain on both sides; dreadful dissentions, in the mean time, breaking forth among the Jews, the Christians fled to Pella beyond Jordan, and were secure; and many others, judging what would be the consequence of the Romans' displeasure, retired from the city.

In the year 68, Vespasian entered Galilee, at the head of a powerful army; one city after another fell victims to the Roman vengeance, and the people, in prodigious numbers, were either put to the sword, or carried into captivity; among the latter was Josephus, the Jewish historian, who afterwards, being in favour with the Romans, accompanied Titus, Vespasian's son, at the siege of Jerusalem, and recorded their wars.

The nation was now divided into two very opposite parties; one was for submitting to the Romans, and obtaining peace, the other was composed of zealots, who affirmed it would be offering the greatest dishonour to God, to submit to an earthly potentate, and especially to heathens. Under the name of religion, the zealots committed the most horrid cruelties; they began their outrages by murdering all those that opposed them in the country round about; they entered Jerusalem, but met with a stout opposition from the opposite party, who had taken up arms to defend themselves from the violence of these fierce persecutors. The zealots got the upper hand, and 12,000 persons of rank in the city, in the flower of their age, fell victims to their wanton cruelty; barely to put these to death was thought too mild a punishment; they made it their diversion to inflict the most exquisite tortures they could invent on the helpless victims of their implacable fury. They next began to wreak their vengeance on the multitude, who were obliged to flee Jerusalem, and seek refuge with the Romans, though the zealots had placed guards at the avenues, who were sure to destroy the miserable fugitives that fell into their hands. Vespasian waited at Cesarea, knowing that the Jews were wasting their strength, and rendering themselves an easier prey to the Roman arms.

When the zealots, under John, the son of Levi, who had heretofore fled from the siege of Gischala, had destroyed or driven out all the opposite party, these violent people turned their rage against each other. The Idumeans, who were of John's party, had complained of

of the number put to death: but John, by his tyranny, forced them to revolt, and turn their arms againſt him.

One Simon alſo, who had his head-quarters at Maſſada, had formed a party, and, in his turn, had maſſacred, plundered, burnt, and deſtroyed almoſt all before him. Through fear of the greater fury of John and his zealots, whoſe ſtrong hold was the temple, and who, it was feared, would ſet fire to the reſt of the city, the gates of Jeruſalem were opened to Simon and his followers; another faction was alſo raiſed in the city under Eleazar, but this was of no long continuance, for the different parties were all reſolved into the two factions of Simon and John.

In 72 the Romans began their march towards the capital of Judea, waſting the country, and deſtroying the inhabitants as they went along, and in 73 ſat down before the walls of Jeruſalem. The general, Titus, afterwards emperor, repeatedly by Nicanor, by Joſephus, and in his own perſon, made offers of peace to this infatuated people; but they were rejected with contempt, and Titus was, with reluctance, obliged to begin the ſiege in form. With incredible labour of the Romans, trees were cut down, houſes levelled, rocks cleft aſunder, and vallies filled up, towers were raiſed, walls built, and battering rams erected, with other engines of deſtruction, againſt the city.

Within, the factions of John and Simon were mutually deſtroying each other: the parties were unanimous in the deſperate ſallies they made upon the Romans, and, when returned within the gates, with equal rage, they turned their arms againſt each other, in thoſe parts of the city which John had heretofore laid waſte in his fury; while ſuch of them as fell into the hands of the Romans, were crucified in view of the town.

The Romans, after ſeveral ſevere conflicts, and extreme fatigue, make a breach in the walls, and force a paſſage: the Jews, abandoning this incloſure, retire to the next; with ſtill greater pains, the ſecond is forced, the Jews retreat, and are ſtill incloſed.

In the mean time, famine and peſtilence reign within the city, the rage of the factions increaſe with their calamities; they force the houſes of the inhabitants in queſt of victuals; if they find proviſions, they kill the people for not appriſing them of it; if none, they inflict on them the moſt excruciating tortures, under the idea, or pretence, of their having ſome concealed; the zealots were not reduced to real want, but they had the horrid ſatisfacton of ſtarving what they called uſeleſs perſons, and thereby keeping up their own ſtock.

The general, knowing their miſerable condition, and wiſhing to ſpare them, gives them four days to cool, and, in the mean time, diſtributes proviſions to his army in view of the beſieged, who flock on the walls to behold it; he makes freſh offers of peace, to which bitter invectives and renewed hoſtilities are returned; from the offers of Titus, which they attribute to cowardice rather than compaſſion, and from the cruelties of the zealots, great numbers are induced (though deſperate the attempt) to ſteal away privately to the Romans; while many are only rendered more deſperate and reſolute; and even in the Roman camp they met with their deſtruction. From a notion the ſoldiers

diers had taken, that they had ſwallowed great quantities of gold, 2000 of them were ripped open in one night, to come at the ſuppoſed treaſure. Titus, apprized of this bloody buſineſs, would have condemned the murderers, but they proved ſo numerous, he was obliged to forego the deſign, and content himſelf with iſſuing a proclamation through the camp, that whoever ſhould henceforward be ſuſpected of ſuch horrid villainy, ſhould be put to death; yet this did not prove a ſufficient protection; many of them afterwards were ſecretly murdered through the ſaid greedy deſign.

The calamities of the Jews continue to increaſe.—Without, the Romans throwing up a wall in about three days, near five miles in circuit, thereby cut off from the beſieged the poſſibility of eſcape by flight, as well as help and proviſions from abroad; ſuch was their ardour to haſten the deſtruction of this deſtined nation.—Within, heaps of dead bodies, rotting above ground, and dying mortals, deſolate the ſtreets of Jeruſalem; the inhuman zealots making the miſeries and dying groans of their ſtarving brethren, the ſubject of their cruel mirth, and even wantonly killing them, by ſheathing their ſwords in their emaciated bodies, under pretence of trying their ſharpneſs.

I ſhould undertake (ſays Joſephus) an impoſſible taſk, were I to enter into a detail of all the cruelties of thoſe impious wretches; it will be ſufficient to ſay, that I do not think that, ſince the creation, any city ever ſuffered ſuch dreadful calamities, or abounded with men ſo fertile in all kinds of wickedneſs.

When the zealots ſaw they could no longer, either by their ſeverities, or the greateſt vigilance of their guards, prevent the defection of the people, or their flight to the Romans, they had recourſe to another moſt impious ſtratagem: A ſet of wretches, pretenders to prophecy, was hired to go about the city, crying out, that a ſpeedy and miraculous deliverance was at hand; and this, for a while, afforded deluſive hopes to the miſerable remains of this infatuated people, when an affair happened in Jeruſalem, which filled the inhabitants with conſternation and deſpair, and their beſiegers with horror and indignation. An unhappy woman, reduced to the laſt extremity by pinching hunger, ſacrifices the feelings of a mother to the voracious calls of appetite, butchers her child, and feeds upon the body.

When news of this unnatural affair was ſpread through the city, the miſerable inhabitants then began to think themſelves forſaken by Divine Providence, and to expect the moſt dreadful effects of his judgments; and when Titus heard, with horror, the diſmal account, he, in his anger, reſolved on the extirpration of the nation: Since (ſaid he) they have ſo often refuſed my proffers of pardon, and have preferred war to peace, rebellion to obedience, and famine, ſuch a dreadful one eſpecially, to plenty, I am determined to bury that curſed metropolis under it's ruins, that the ſun may never ſhoot his beams on a city where the mothers feed on the fleſh of their children, and the fathers, no leſs guilty than they, chuſe to drive them to ſuch extremities, rather than lay down their arms.

Titus, notwithſtanding this declaration, ſtill inclined to compaſſionate this deluded people, and while one part was yielding after another

ther to the ſtrenuous attacks of the Roman army, both Joſephus and he continued to exhort and perſuade them to ſurrender; he deſired greatly to preſerve the temple; ſaw with concern the daily ſacrifice ceaſe, and upbraided the zealots for neglecting their worſhip: but this wretched people were plundering that very temple, which they ſuperſtitiouſly regarded as their ſure defence againſt the Roman nation, and which they perſuaded themſelves was too holy to be ever ſuffered to fall into the hands of the heathen, though they themſelves were getting drunk with the wine intended for the ſacrifice.

The havock of war now rages in Jeruſalem, one place after another is ſet fire to by the beſiegers and the beſieged, and, in the dreadful combuſtion, numbers are deſtroyed on both ſides. The temple was yet entire, but the fury of the aſſailants could now no longer be reſtrained; one of the Roman ſoldiers, getting on the ſhoulders of his comrade, threw a blazing firebrand in at a window of the temple, which ſoon ſet the building in a flame, on the ſame day and month in which it had formerly been burnt by Nebuchadnezzar.

Titus, who had been ſleeping in his pavilion, awakened by the noiſe, immediately ran to give orders to have it extinguiſhed, but in vain; he called, begged, threatened, and even caned his men; but they, in the general confuſion, were too earneſtly bent on killing the Jews, or increaſing the flames, to either hear or regard the orders of their general. By the flames, by falls from the battlements, and by the Roman ſword, which deſtroyed all it met with, whether man or woman, the hoary head, or the tender child, prodigious numbers periſhed, and, among theſe, upwards of 6000 perſons, who had been ſeduced there by the falſe prophets, who had promiſed them a miraculous deliverance on that very day. Some of them remained five whole days on the battlement, and then threw themſelves on the general's mercy, but were anſwered, that they had outſtaid their time, and were led to execution.

The ſcene of theſe deſolations was the temple and it's precincts, from whence the zealots, by a ſtrenuous puſh, made their way into the city, but the avenues were guarded, and they could not get out. They then fortify themſelves, as well as they can, on the ſouth ſide of the city, from whence John and Simon deſire a parley with the general; they are anſwered, that though they had been the cauſe of ſo much bloodſhed and ruin, their lives ſhall be ſpared if they lay down their arms; they reply, that they have engaged themſelves, by the moſt ſolemn oaths, never to ſurrender, and beg leave to retire to the mountains with their wives and children. Enraged by this reply, Titus cauſed an herald to bid them ſtand on their defence, declaring, that not one of them ſhould be ſpared, ſince they perſiſted to refuſe his laſt offers of pardon.

The Daughter of Zion, or the lower city, is now abandoned to the fury of the ſoldiers, who plunder, burn, and maſſacre with inſatiable rage. The zealots who are left, flee to the royal palace in the upper city, called alſo the city of David, on Mount Zion, here they killed 8000 Jews, who had taken refuge in it.

Near

Near twenty days are ſpent by the Romans in making preparations for a vigorous attack on the upper city; the engines of war then play with fury, the beſieged, who are ſeized with a panic, run like madmen, with deſign to attack the wall of circumvallation, in order to effect an eſcape from the city, but being repulſed, they fly to the public ſinks, common ſewers, and every ſecret receſs they could find; thoſe whom the Romans can find are maſſacred, and the city is ſet on fire. John, being pinched with hunger, comes out, begs his life; this is ſpared, but he is condemned to perpetual impriſonment. Simon's retreat being better ſtored, he holds longer out. Simon and John are ſaved, with 700 of the handſomeſt Jewiſh captives, to attend the triumphal chariot; after which Simon is dragged through the ſtreets, with a rope about his neck, ſeverely ſcourged, and then put to death; and John is ſent to his puniſhment. Three caſtles ſtill remained untaken, Herodion, Machœron, and Maſſada; the two former capitulated, but Maſſada held out. The place was very ſtrong both by nature and art, defended by a number of zealots under Eleazar. The Roman general, having, in vain, tried his engines and battering-rams againſt it, ſurrounded it with a high wall, and ſet fire to the gates. Eleazar, in deſpair, perſuaded the garriſon firſt to kill their wives and children, and then to chuſe ten men by lot, who ſhould kill all the reſt; and, laſtly, one of the ſurviving ten to diſpatch them and himſelf, firſt ſetting fire to the place before he put an end to his own life; this was accordingly done, and when, on the morrow, the Romans were preparing to ſcale the walls, ſurpriſed neither to ſee nor hear any thing ſtirring, they raiſed an hideous outcry, on which two women, who had concealed themſelves in an aqueduct, came out, and acquainted them with the deſperate cataſtrophe of the beſieged.

The whole number of Jews who periſhed in this war was computed to be upwards of 1,406,000, beſides vaſt numbers who periſhed in caves, woods, wilderneſſes, common-ſewers, &c. of whom no account could be taken. Of the number of priſoners, amounting to 97,000, (beſide 11,000 who were ſtarved through neglect, or died probably of extreme grief) a few were reſerved to grace the victor's triumph, and great numbers ſent to the different cities of Syria, to be expoſed on the public theatres as gladiators, or be devoured by wild beaſts, according to the barbarous uſages of the times.

Since this dreadful cataſtrophe of their city and government, the Jews have been diſperſed over the face of the earth; and, notwithſtanding the continued perſecutions of the uncircumciſed, through all the ages of Chriſtianity, they continue to increaſe and multiply. They have eminently diſtinguiſhed themſelves by their commercial induſtry, many important branches of merchandize being derived from them. In antiquity there was 'a difference put between the Egyptians and Iſrael,' and till this day, it is to be lamented, that the mutual ſuperſtitions of the Jews and Gentile world, keep them ſeparate from each other.

176. *Greeks, Romans, Goths, Saracens, &c.*] Greece was, for many ages, the theatre of revolutions; but their effects ſeem to have been

principally confined to that celebrated little tract of the earth. It was principally peopled by colonies from Thrace, from Egypt, and from Asia; and these, under their different leaders, gave rise to many small monarchical states, which, at first, had no connection with each other, except by mutual inroads, piracies, and hostilities. When the different states of Greece had, at length, begun to assume some appearance of form and regularity, 1496 years before the Christian era, Amphictyon proposed to the kings, or leaders, a mutual association, as a preventive of intestine division, and a protection against foreign powers. By his eloquence and address he engaged twelve cities to unite together for their mutual preservation. Two deputies from each of these cities assembled twice a year, at Thermopylæ, and formed what was called the Amphictyonic council. In this assembly, whatever related to the interest of the general confederacy was discussed, and finally determined. It had the care of the temple at Delphi, and of the riches amassed in it, from the dedications of those who consulted the oracle; and was the great spring of action in Greece while that country preserved it's independence. The games, also, instituted in Greece, as the Isthmian at Corinth, the Olympic, the Pythian, and the Numean, though the diversions of a barbarous age, and attended with some very bad effects, seem to have helped, in those rude times, to associate the Greeks together.

The first expedition undertaken for the general interest of the states of Greece, was that of the Argonauts. Their object was to open the commerce of the Euxine Sea, and to establish colonies on the coasts of Colchis, where they at length arrived with their little fleet, after encountering many difficulties. This happened 1263 years before the Christian era, and, in less than 80 years after this time, they appear to have made a wonderful progress in wealth and power. At that time the ships of the confederates against Troy formed a fleet of no less than 1200 vessels, which contained, at a medium, no less than 100 men each.

The different states of Greece were generally divided into districts. Their king, or chief, was their leader in time of war, and their judge in time of peace. He presided in the administration of their religious ceremonies, but was far from being absolute. In each state there was a number of other leaders, whose influence over their particular clans, or tribes, was not less than that of the king over his immediate followers. These captains were often at war with one another, and sometimes with their sovereign. Each particular state was, on a smaller scale, what the whole country had been before the time of Amphictyon, till 1234 years before the Christian era, Theseus, king of Attica, detached the different tribes from the leaders who commanded them, abolished the courts which had been established in different parts of Attica, and appointed one council-hall common to all the Athenians. Monarchy was, in a similar way, consolidated in the other states; but Greece did not long continue under the power of kings. The Athenians declared that none but Jupiter should be their king, 1095 years before the Christian era; much about the same time the Thebans abolished the regal power; and other cities of Greece,

after

after the example of Athens and Thebes, erected themſelves into republics. The Spartans, or Lacedemonians, retained the name of king in their conſtitution 800 years longer; but the regal power was very much limited: moreover, it was divided between two families, the deſcendants of the two brothers, Euriſthenes and Procles, who having got poſſeſſion of the country, had become conjunct in the government. After that the Spartans had two kings at once. They were a moſt hardy race: and their manners, even in peaceful times, were ſo ſevere, that even war, with all it's hardſhips, ſeemed but a relaxation to them. Athens and Sparta took the lead in the affairs of Greece. They were rival ſtates, and, in their conteſts and revolutions, involved the others in almoſt continual war, when they were not combined together againſt their foreign enemies.

If the Greeks, this active and reſtleſs people, produced any conſiderable effect in the political affairs of the world at large, it was, perhaps, by ſtanding as a barrier between the infant ſtate of Rome and the monarchs of the Eaſt. While they were oppoſing and beating off the numerous armies which the kings of Perſia brought againſt them, Rome, contending only with neighbouring nations, was emerging from obſcurity, and gradually riſing into power.

This celebrated city was founded 753 years before the Chriſtian era, at the time that the Aſſyrians were overrunning the Eaſt; and, during all the time of thoſe mighty revolutions wherewith Aſia was agitated, while the government of the eaſt was ſucceſſively in the hands of the Aſſyrians, the Medes and Babylonians, of the Perſians and of the Macedonians, the Romans, a hardy race, in the conſtant exerciſe of war, were enlarging their territories, till, fifty years before the Chriſtian era, the conteſts of many celebrated nations were ſilenced and loſt in their conqueſts, and their dominion was acknowledged over the greater part of the known world.

Romulus and his banditti, the founders of Rome, have been accounted the deſcendants of the Trojans, who, under Æneas, after the burning of their city, found an aſylum among the Latins. The leader of the Trojans married Lavinia, the daughter of Latinus, king of Latium, and built Lavinium. His ſon Aſcanus built Alba Longa, and from the kings of Alba Romulus was deſcended.

At the time of the founding of Rome, Italy was divided into a number of ſmall but independent diſtricts, and Romulus was continually embroiled with the neighbouring ſtates. He was generally victorious, and added the nations he ſubdued to the empire, copying their arts, whether civil or military, if he thought them ſuperior to the Romans. He alſo inſtituted the ſenate, a court originally compoſed of a hundred perſons, diſtinguiſhed for their wiſdom and experience.

After the death of Romulus, the firſt king of the Romans, Numa Pompilius, Tullus Hoſtilius, Ancus Martius, Tarquinius Priſcus, and Servus Tullius, laboured each, during his reign, for the aggrandizement of Rome. But Tarquinius Superbus, the ſeventh and laſt king, having obtained the crown by the murder of his father-in-law Servius, ſupported it with the moſt cruel tyranny and inſolence, till the whole family of the Tarquins were expelled the city, and the regal power was

aboliſhed, 509 years before the Chriſtian era, at which time the territories of the Romans extended about fifteen miles round the walls of their city.

After this the government was in the hands of conſuls: theſe were two magiſtrates annually choſen, who generally wiſhing to ſignalize themſelves during their temporary power, led on the Roman people from victory to victory. The nations of Italy, Spain, and Luſitania, the Carthaginians, Grecians, and people of the Eaſt, ſucceſſively ſubmitted to their yoke.

The Romans, however, in their enterpriſes were not uniformly victorious; in their inſatiable thirſt for dominion, they were ſometimes reduced to the greateſt difficulties. About 400 years before the Chriſtian era, their city was taken and ſacked by the Gauls, under Brennus; and 200 years after this diſaſter, Hannibal, the Carthaginian general, having routed all the armies that were ſent againſt him, appeared before their gates, and, it is thought, would have wholly cruſhed the riſing empire, had he not been called home to the defence of Carthage.

The latter days of the Roman republic exhibited a picture not unſimilar to the early days of the republic of France. The citizens were a prey to domeſtic factions; the moſt virtuous were not ſecure, yet whatever party was uppermoſt at home, and whatever atrocities were committed there, they withſtood, or defeated the unnumbered armies of ſurrounding nations. But the end of the civil broils at Rome was the deſtruction of the republic. About 50 years before the Chriſtian era, Julius Cæſar ſacrificed the liberty of his country to his own ambition. The enthuſiaſts, Brutus and Caſſius, to reſtore liberty to their country, aſſaſſinated him in the ſenate; but the reſult of this ſanguinary deed was, their own expulſion from the city, and the renewal of civil horrors. The ſea-fight at Actium, and the infatuation of Marc Anthony for the meretricious Cleopatra, rendered Octavianus the maſter of the world. From this time the authority of the Romans, under the emperors, was acknowledged from the Britiſh iſles to the borders of Perſia, and from the wilds of Scythia to the Lybian ſands; till, in the beginning of the fifth century, the ſeat of government being removed to Conſtantinople, and the weſtern part of the empire overwhelmed by inundations of the wild, uncultivated people of the north, as the Goths, Vandals, and others, their poſſeſſions were limited to that part of the world we now call Turkey. Here the Perſians, under their own princes, the Arſadices, more than once defeated the Roman legions, when the kingdoms which had ariſen out of the ſpoils of Alexander, divided among his generals, were entirely under the Roman yoke.

After the removal of the ſeat of government to Conſtantinople, Rome was not loſt to the empire without ſome ſtruggles. Alaric, king of the Goths, took and plundered that city in 410; Genſeric, the Vandal, did the ſame in 455, as did Ricimer (deſcended from the royal family of the Suevi, though in the ſervice of the Roman emperor) in 472. Laſtly, Odoacer, king of the Heruli (choſen a leader of the barbarian ſoldiers, who revolted on account of their pay) put an end to the Roman empire in the weſt, in the reign of the emperor Auguſtulus,

Auguſtulus, and cauſed himſelf to be proclaimed king of Italy in 476; but, in 493, he was defeated, and put to death, by Theodoric, king of the Oſtrogoths.

In 537, Beliſarius, the general of Juſtinian, recovered Rome, and the greateſt part of Italy from the Goths; but in 547, the Goths, under Totila, again took Rome, and though they were ſoon after driven out by Beliſarius, they retook it upon his return to Conſtantinople. At length, in 553, Narſes, the Roman general, conquered and ſlew Teia, the laſt king of the Goths, in Italy, after which it was governed by officers called exarchs, who reſided at Ravenna.

In 726, Rome, in the pontificate of Gregory II. revolted from the Greek emperors, and with it's duchy, including part of Tuſcany, and part of Campania, became a free ſtate, and was governed by a ſenate. In 800, the ſenate, and people of Rome, acknowledged Charlemagne as emperor of the weſt; and he ſurrendered the city and duchy of Rome to the pope, reſerving the ſovereignty to himſelf as emperor of the Romans. Under the popes, as temporal princes, Rome and it's territory remain to this day.

It was in the earlier part of the 7th century, when the deluge of barbarians, from the wilds of the north, which had ſwept away multitudes of the ancient inhabitants of the weſt, was now much reduced by a rapid ſucceſſion of revolutions among themſelves, characteriſtic of their fickle and ferocious temper, when the eaſtern empire and Perſia, by their contentions with each other for ſuperiority, were both enfeebled, that the Arabians began to diſtinguiſh themſelves, under the name of Saracens. About the year 622, Mahomet became the head of a ſect, which, in about eleven or twelve years, made themſelves maſters of all Arabia, and, ſoon after this, extended their conqueſts over a great part of the world. Spain and Portugal were brought under their government, and the extenſive tracts of Africa and Aſia, from the Atlantic to India, were ſubdued by them, and received the doctrines of Mahomet.

SECTION XIX.

Modern Hiſtory, including the Diſputes of the Chriſtians and Mahometans, the Ravages of the Tartars, and the preſent Diviſions of the Earth.

If we take a view of the world, as it appears in the year 800, or the days of Charlemagne, the period, when modern hiſtory is generally accounted to begin, we ſhall find, that thoſe parts of it which had hitherto fallen under the notice of the hiſtorians we are acquainted with, were generally ſhared among three principal empires.

177. *Mahometans, Chriſtians, Cruſades, &c.*] The dominions of the Saracens comprehended Aſia and Africa, from the Ganges to the

Atlantic; Spain was alſo a part of their empire. The weſtern parts of the Roman empire was ſubject to Charlemange. Greece, Aſia Minor, and the provinces adjoining Italy, were the poſſeſſions of the now-reduced eaſtern Roman empire.

It ſeems hardly neceſſary to obſerve, that in the dominions of the Saracens, the doctrines of Mahomet were profeſſed; in the eaſtern and weſtern empires, thoſe of Chriſtianity.

Mahomet had not taken care to name a ſucceſſor, and hence aroſe wars and janglings for the Caliphat. In Europe the conteſts ſeem to have been equally bloody. The Britiſh iſles, divided into many petty ſtates, whether under the Saxon heptarchy, or the ancient princes, were peculiarly obnoxious to inteſtine diviſions. On the death of Charlemange, the empire being divided among his children, fell under the ſame grievous evils, while the heptarchy being diſſolved in 827, England was reduced under one head, in king Egbert. In this infant ſtate of the European powers, the conteſts of neighbouring ſtates were calamitous and many; the depredations made on them by the Danes and Normans were wide and deſtructive, and the bickerings between the powerful barons and their ſovereigns frequent and bloody.

Perhaps a period more calamitous than this now mentioned is not to be met with in hiſtory. Mahomet had broken down the altars of idols, aboliſhed their ſacrifices, and taught the people to believe in the unity of the Supreme Being; but he had ſet him up as a greater prophet than the meek and lowly Jeſus, preached perſecution and conqueſt to his deluded followers, and was in himſelf a dreadful example of violence. The moſt peaceful Chriſtian religion, which breathes good will to men, and teaches us to love our enemies, through the degeneracy of it's profeſſors, who had lamentably fallen into groſs ſuperſtition, ſerved, as it was now profeſſed, to warrant and foment the horrid practice of war.

When continual diviſions, both in Europe and the Mahometan world, ſeemed to threaten the deſtruction of the whole human race, a new conteſt aroſe, which reſolved the different contending powers into two grand parties. Paleſtine was regarded with partiality by the Chriſtian world; they called this territory the Holy Land, and their conteſts for the poſſeſſion of it they deemed holy wars.

The Caliph Omar, ſucceſſor of Mahomet, had formerly invaded this country, and taken it from the eaſtern empire; and the Chriſtian powers combined to retake it from the Saracens.

On this occaſion, multitudes of adventurers from the ſeveral kingdoms of Europe flocked together, to partake in the expedition or cruſade. With impetuous fury they attacked the Saracens, and were oppoſed with ſimilar ſpirit. Deluges of blood were ſpilled in their conflicts, and few that had left Europe ever returned to their native countries. The enthuſiaſm of thoſe ages was not eaſily ſubdued, and one cruſade after another was undertaken with zeal. Jeruſalem, which had been rebuilt by the emperor Adrian, was accordingly in the hands of the different parties ſucceſſively, till the Chriſtians were finally driven out.

But

But while the Saracens and Europeans were conſuming their ſtrength in the ſmall province of Paleſtine, the more eaſtern nations of Aſia ſeemed threatened with total extirpation.

178. *Tartars, Turks, &c.*] The Tartars, of whom we have yet heard very little, about the time that John was king of England, begin, under Jenghis Khan, afterwards under Hulaku and Timur Beck or Tamerlane, ſucceſſively to make the moſt ruinous havoc of the human race. Jenghis Khan, perhaps the greateſt and moſt bloody conqueror that ever lived, had been a prince of one of the ſmall ſtates of Eaſt Tartary, and deprived of his inheritance at the age of thirteen, which he recovered at the age of forty; when he reduced the rebels, and began his cruelties, by throwing their ſeventy chiefs into as many chaldrons of boiling water. Nothing now ſtands before him, he conquers the neighbouring princes; ſubdues and kills the Van-khan, or great Khan himſelf, to whom his own and other ſtates had been ſubordinate. He extends his conqueſts over the nations of Aſia, from remote Tartary and the confines of China, to Ruſſia on the weſt, and ſouthwards to the Perſian ſhores: his deſign at firſt ſeems to be, to totally exterminate the people he ſubdues, and re-people their countries, with his Mongls or Mogul Tartars: and accordingly, with fell and fixed reſolve, after a victory he employs his army in beheading 100,000 priſoners at once. Jenghis Khan and his followers were deiſts; it was long before the Khan had heard of ſuch a thing as a temple, or particular place dedicated to the deity, and when it was firſt mentioned to him, he is ſaid to have treated the notion with ridicule and contempt. Well would it have been, if the conqueror, in theſe ſpeculative refinements, had given up to the worſhip that is performed in the temple of the heart; but from the dreadful reſolution of the ſovereign in favour of his deiſt, and the contempt he ſhewed for the manners of the vanquiſhed, there ſeems reaſon to believe that his maſſacres, as well as thoſe of Mahomet, were, in fact, perſecutions, on account of a different religious profeſſion. His deſtruction of the human race is not to be paralleled in the annals of any other nation. To give an account of the numbers ſlain, during his ſix years reign, will appear almoſt negatory, when it is conſidered how incapable we generally are, of forming adequate conceptions of things we have never ſeen. The human imagination eaſily lays hold of the deſcription of three, four, or half a dozen men; groups of this ſize frequently preſent themſelves to the eye, we are familiar with them; ſome, accuſtomed to larger aſſemblages of people, as at places of worſhip, on the parade, &c. being informed of the number preſent, may poſſibly, without vacancy or diſtraction of idea, read accounts of hundreds, or of thouſands of people; but fourteen millions, four hundred and ſeventy thouſand, the number ſuppoſed to have been killed by the deſtructive Jenghis Khan, ſeems too prodigious for any human mind to realize.

The Tartars, after the death of this deſtroyer of the human race, continued extending their conqueſts until, under Hulaku, they put an end to the empire of the Saracens, by taking their city Bagdat, and became maſter of almoſt the whole of Aſia.

The family of Jenghis Khan had become extinct, and the empire divided into many ſmall ſtates; between theſe, wars prevailed, when one of the princes, Timur Beck, or Tamerlane, in the fourteenth century, copying the example of Jenghis, reduced them under his own dominion; like him ſpread his conqueſts over Aſia, and even took and pillaged the city of Moſcow in Ruſſia.

The commotions of the Tartars in the eaſt, had driven from their confines, the inhabitants of Turkeſtan; and while the reſt of the world were fiercely deſtroying each other, theſe vagrant Turks ſeem to have been acquiring poſſeſſions and power. Renowned for their courage and impetuoſity in war, they were at firſt employed only as mercenary troops in the armies of contending powers: but this did not long ſuffice them, they ſoon commenced conquerors for themſelves, and reduced their former maſters, the Saracen and Perſians, under their own dominion. On the other ſide of the Helleſpont, they were formed into a nation, with Pruſſia, in Bithinia their capital, under their leader Othman, one of the greateſt warriors and politicians of the age; and hence they were alſo called Othmans and Ottomans.

This people, Tamerlane or Timur Beck, in his weſtern excurſions, found beſieging the remains of the Eaſtern Roman Empire, now pent up in the city of Conſtantinople.

If the profeſſion of Chriſtianity could not ſecure the Europeans from wars and janglings among themſelves, the doctrines of Mahomet were far from preventing his follower from deſtroying each other, among whom were now the Perſians, Turks, and Tartars, as well as the Arabs or Saracens.

Timur accordingly attacked the Ottomans with his uſual ardour, cut their army in pieces, and in the inſolence of conqueſt, carried away captive their Sultan Bajazet, bound in an iron cage. The empire of the Tartars, however, ſoon after the death of the conqueror, became again divided into a number of ſtates; while the Turks, recruiting their ſtrength, renewed the attack on the Greeks or Eaſtern Roman Empire, in the year 1452, ſubdued them, took the city of Conſtantinople, and there fixed the ſeat of their government; and in the beginning of the fifteenth century their dominions included Greece, Aſia Minor, Paleſtine, Syria, &c. with Africa, from the Red Sea, along the Mediterranean to the Atlantic Ocean. Thus fell, about the middle of the fifteenth century, the laſt feeble remains of the once great and imperial Rome; and the empire, which had heretofore made the nations of the earth to tremble, bowed at the feet of the vagabond and overbearing Turks.

179. *Later Revolutions, and preſent Divions of the Earth.*] After this period, the revolutions of empires, appear to have been of far leſs magnitude than thoſe that had heretofore happened; ſome of the Sultans, it is true, while the European powers were weakening each other with continual broils, frequently brought their arms againſt them, and alſo led their Turks into Perſia with ſucceſs; but the policy of the Porte or Turkiſh court, in the government of the remote parts of their territories, as in Egypt and a ſmall part of Arabia, is to avoid heavy taxes, for fear of a revolt, and to keep the Scheiks, or petty princes, of thoſe diſtant

diſtant parts, at variance with each other, to prevent them from uniting together againſt the ſeignior; on ſo looſe a baſis does their extenſive empire reſt. Within the preſent century the Perſians, under their leader Kouli Khan, conquered their armies, and drove them out of their poſſeſſions in Perſia, while the European powers were alſo gaining advantages over them. The other empires in Europe have alſo undergone ſome revolutions. The Britiſh iſles, from a number of jarring ſtates, are reduced to two, and theſe acknowledge the ſame ruler or head. The Netherland provinces have revolted from Spain, and become important ſtates. The Northern Powers have grown into civilization and political conſequence; and the kingdom of Poland has been rent in pieces, and divided among the three adjoining powers of Pruſſia, Germany, and Ruſſia; with a variety of other changes, which are too local to affect the world at large.

The French revolution, though, at firſt view, it appear to be only a change in their internal government, not affecting the world at large, has produced ſuch aſtoniſhing effects, that it may be conſidered as one of the moſt extraordinary events that have been recorded in the annals of mankind. It was not merely a revolution in their government; their manners and religious profeſſions have alſo been much changed; and their example ſeems to have had an influence on all the ſurrounding nations. The world at large ſeems to take an intereſt in the affairs of the Republic of France. The rulers have combined together and led unnumbered hoſts againſt them: but already have thoſe enthuſiaſts driven them from their threatened and invaded country, and enlarged it's borders. Tracts of Spain, Italy, and Germany have fallen into the hands of the Republicans. By their help or example, the governments of Holland and Geneva have been overturned or changed; and it is out of the reach of human wiſdom to aſcertain the end of theſe things.

The northern parts of Aſia are under the Ruſſians, from Europe to the Pacific Ocean; and from the ſhore of the Euxine and Caſpian ſeas, to the impenetrable region of the Arctic Pole. The Turks poſſeſs Aſia Minor, adjoining which are the Arabs on the ſouth. The Chineſe poſſeſs the eaſtern parts of Aſia; to the ſouth-weſt and ſouth of theſe lie the kingdoms of Thibet, Pegu, Siam, and Cochin China; and ſtill farther eaſt, the iſlands of Japan, all but little known to the Europeans. In the central parts of the continent rove the Tartars; ſouth of which lies Perſia, and alſo India or the Mogul empire, in which the maritime powers of Europe have poſſeſſions, as well as in the Eaſt India Iſles.

The Turks feebly ſupport a ſort of claim to the northern parts of Africa, from Abyſſinia on the eaſt, to Morocco on the weſt; theſe two empires we are not much acquainted with, and ſtill leſs with the interior parts of the country. In Africa, alſo, the Europeans have ſettlements, both in the iſlands, and along the weſtern, ſouthern, and eaſtern coaſts.

But in America it is, that the dominions of the Europeans are moſt extenſive; there they lay claim to territories which it would take all Europe

rope to people; numerous tribes of Indians and the American States occupy the reſt. It was in 1776, that the Americans declared that they then were, and ought to be, Independent States: at that time the number was thirteen, ſince then, two others have been added, and Congreſs has reſolved that the extenſive tract between the Ohio and the Lakes ſhall form ten more.

Europe is the ſmalleſt quarter of the globe, but from the ſkill of the people in arts and ſciences, it is of greater importance, in a political capacity, than all the reſt of the world collectively. The empires in the eaſtern parts of it, derive a conſequence from their numerous armies and military ſkill; but the maritime powers, or thoſe on the weſt, have been by far the moſt enterprizing in their projects. Theſe are the nations, whoſe language is heard in every quarter of the globe, and whoſe fleets have urged their adventurous way through oppoſing difficulties, exploring the utmoſt boundaries of ſea and land, through every habitable climate of the world.

PART V.

PART V.

CHANGES THROUGH DIFFERENT AGES IN THE MANNERS OF MANKIND.

SECTION XX.

Ancient Times, including the Origin of the Arts, Sciences, Commerce, &c. the Ancient Heathens, the primitive Chriſtians, and the Germans in their Foreſts.

IN the preceding abſtract of hiſtory, we have already ſeen the revolutions of many great and powerful empires, and in this tumultuous world, where poſſeſſions ſeem to have been much influenced, and often quite determined by the longeſt ſword, this neceſſarily proves an intereſting part of hiſtory: there have happened, however, a variety of other events, which are perhaps of greater importance than the moſt ſplendid conqueſts, though they may appear with far leſs ſhow in the hiſtoric page. Such are the changes that have happened through different ages in the manners of mankind.

180. *Origin of Arts and Letters.*] The curious works, which ſo diminutive and imperfect a being as man, is able to perform, and the various acquiſitions he is capable of making in ſcience, are aſtoniſhing; he comes into the world, a feeble and helpleſs creature: equally devoid of ſtrength and reflection, and his limbs are not unfolded or enlarged by ſlower degrees than are the powers of his mind. But, however ingenious and active the individual may prove, when arrived at maturity, unavailing will be his efforts, when uncombined with the labours of his fellows; the acquiſitions he has already made, he has learned from thoſe that have gone before; and, however little he may eſteem them, the diſcovery of many of them will be found, on enquiry, to have been the labour of ages; and there is hardly any accommodation he experiences during his life, whether of food, raiment, or any other convenience, wherein multiform labours of his cotemporaries are not crowded together for his uſe. So mutually dependent are we on each other,

other. It is by mutual combination alone then, that man is enabled to produce any conſiderable effect.

It appears from the Hebrew ſcriptures, that the arts were in a degree of cultivation before the flood. Of the offſpring of Cain, Jubal was the fathers of ſuch as played on the harp and organ, and Tubal the inſtructor of every artificer in braſs and iron. According to Joſephus, the poſterity of Seth alſo obſerved the order of the heavens, and the courſes of the ſtars. The ſame author ſays, that the Aſſyrians and Chaldeans were the firſt after the flood, who applied themſelves to the cultivation of the ſciences. Their king, Belus, is ſaid to have converted the celebrated tower of Babel into an obſervatory, and to have made the firſt aſtronomical obſervations in it; and the Chaldeans accounted him the author of that abſurd, and now exploded, ſyſtem of aſtrology. The Jewiſh hiſtorian alſo informs us, that their ſciences, which the Egyptians cultivated with renown and ſucceſs, were derived from the patriarch, Abraham, who brought them into Egypt, from Ur of the Chaldees.

To be able to give utterance to the ſilent emotions of the mind, and hereby to communicate our thoughts to each other by means of vocal ſound, ſeems one of the moſt extraordinary capacities we are endowed with; and to be able to convey the intelligence thus brought forth from the ſecret receſſes of the mind, to diſtant ages, and remote ſituations, by different combinations of viſible characters, ſeems to be a power, if it is poſſible, ſtill more aſtoniſhing. Indeed ſo wonderful has this latter art appeared to Indian nations, who were not yet acquainted with it, that it has at firſt been found difficult to convince them, that there was not in the book or paper, which contained the writing, ſomething ſupernatural, ſome ſecret voice which ſpoke to the reader.

While ſpeech appears the moſt natural method of communicating our thoughts to each other, it ſeems not improbable, but that ſo active and ingenious a being as man would, if the powers for the formation of ſpeech had been withheld from him, have found even in geſture a ſilent language, which to the eye would have been very expreſſive. Writing appears from hiſtory, to have been the contrivance of human art, and was not diſcovered till many ages after the flood.

A deſire to preſerve from oblivion, the remembrance of remarkable events or valuable acquiſitions, ſeems in all ages to have univerſally prevailed among the nations of the earth. Among the earlieſt attempts after record, we may, perhaps, reckon the practice of the patriarchs in erecting of pillars, or heaping up ſtones together, by way of memorials; but with no better helps than theſe, tradition neceſſarily wearies under the accumulating burden of ever-growing annals, and nations and people, with their names and deeds, become buried in one promiſcuous ruin together. Picturesque repreſentations of acts and emblematical imagery, ſeem a further, and very natural effort towards laſting memorials; and accordingly we ſhall find, whether we advert to the ingenious efforts of the aſpiring Egyptians, thoſe cultivators of ſcience in remote antiquity, or the more feeble endeavours of the yet uninformed Indians, drawing is alſo an early attempt after record

record; theſe are advances indeed, that might poſſibly have been made towards written hiſtory or recorded intelligence, if mankind had never been acquainted with the uſe of ſpeech; but to affix to particular characters, determinate ſounds, and to be thereby able to communicate intelligible ideas to diſtant countries and remote ages, ſeems to be a power ſcarcely leſs convenient, or uſeful, than it is wonderful. By help of ſpeech, we enjoy the gratification of colloquial intercourſe, with a ſmall circle of our own cotemporaries; by help of writing we hold converſation with people afar off, and with the hereby rendered ſocial dead.

It is rather a matter of diſpute with hiſtorians, by whom the written characters were at firſt contrived, ſome attributing the invention of letters to the Syrians, others to the Egyptians; however that be, it ſeems Cadmus brought the art from Egypt to Greece, that kindly ſoil for the yet infant ſciences, where, with the other arts, it was improved and cultivated with equal diligence and ſucceſs, as thoſe writings of their poets and philoſophers, we have yet preſerved, abundantly prove, and which moſt of the preſent languages in Europe, are in a great meaſure indebted to, for what degree of elegance or refinement they poſſeſs.

About a century before the birth of the prophet Moſes, the uſe of letters is ſaid to have obtained, and he who was ſkilled in the learning of the Egyptians, was capable of recording laws, for the government of the children of Iſrael.

The Aſiatics generally writing from right to left, the Europeans from left to right, one might naturally ſuppoſe, and ſome have imagined, that two different alphabets have, in different countries, been invented independent of each other, from which the others have, as branches, proceeded; but, on the other hand, it has been a conjecture, that as the ſubtle Egyptians had, in the uſe of their hieroglyphicks allegorized away the true ſimple worſhip to ſuperſtitious notions, and idolatrous rites, ſo in the tranſition from their vague emblems to determinate characters, they had accounted their letters not ſimply ſigns of oral ſounds, but alſo emblematical repreſentatives of their fictitious beings, their fancied deities; and that Moſes, in his many teſtimonies againſt the ſuperſtitions of the houſe of Pharaoh, had to ſhow to the backſliding children of Iſrael, that intelligence could be communicated by letters of form and arrangement, quite different from thoſe which the Egyptians extolled as ſupernatural, or revered as divine; and that hence ſprung the oriental alphabets in general, while the Europeans were obliged to Cadmus, for tranſlating, to Greece, the characters of the Egyptians.

The Chineſe ſet down their characters in columns, from the top of the page downwards, but theſe are ſo complex and numerous, that it takes a man's lifetime to learn them. Perhaps the arrangement was accidentally determined on, for by Grecian antiquities of the oldeſt date, it appears the inſcriptions ſometimes read from the right, as well as from the left.

181. *Idolatry.*] Among the various conjectures that have been made reſpecting the origin of idolatry, ſome have imagined it natural to the

mind of man, and others have derived it from the falſe traditions that have prevailed in different nations, reſpecting the true worſhip. A very ſhort time after the deluge, idolatry made it's appearance. It ſeems, from the ſcriptures, that Abraham himſelf was brought up in it, and this was the worſhip of his forefathers. When Jacob departed from the houſe of his father-in law, his wife Rachel took the images, and hid them in the camel's furniture, and Laban complained, Wherefore haſt thou ſtolen my gods? And when Jacob was commanded to go and dwell at Bethel, and make an altar there, the patriarch had firſt to cleanſe his houſehold from idolatry; and they gave unto Jacob, all the ſtrange gods which were in their hands, and all their ear-rings which were in their ears; and Jacob hid them under the oak, which was by Shechem. There is ſcarcely a nation we have heard of, but what has at ſome time been under the influence of idolatry; and it has aſſumed, in different ages and nations, a variety of ſhapes.

The beginning of idolatry in this world, was perhaps, in the reverence of the people towards natural things. The ſhining orb, which affords day to the world, the moon and ſtars which beautify and cheer the ſilent watches of the night, theſe ſeem to have been, with many nations, the ſole objects of their idolatrous worſhip; and there are perhaps no records of a people fallen into idolatry, where theſe ſplendid luminaries have not had a ſhare of their adoration. If I beheld the ſun, ſays Job, when it ſhined, or the moon walking in brightneſs, and my heart hath been ſecretly enticed, or my mouth kiſſed my hand, this alſo were an iniquity.—And caution was given to the Jews leſt, when they looked up to the ſun, moon, and ſtars, and the reſt of the hoſt of Heaven, they ſhould be driven to worſhip them. The bowing to images appears to have been ſtill a groſſer depravation of the human mind; yet this alſo appears to have obtained in the world, at a very early period. Perhaps this practice would have never been once thought of, had not deluded man ſo far departed from the reverence he owed to his Maker, as to aſcribe divine honour to his fellow mortals. When this was once conceived, they had a model, and the copy ſoon followed.

In remote antiquity, it ſeems, Belus, the inventor of aſtrology, before mentioned, had a ſtatue erected to his honour by the Chaldeans, and he, who was adored while living, for his aſtronimical ſkill, had ſacrifices offered up to his ſtatue in Babylon, when his remains were mingled with his native duſt. This ſeems to have been the origin of the idol Bel, mentioned in the Bible; and from ſimilar roots all the heathen deities ſeem to have ſprung, as the Jupiter of the Greeks and Romans, the Oſiris of the Egyptians, &c.

There have few things ever occurred in hiſtory, that have more puzzled the curious enquirer to account for, than the great ſimilitude between the rites, ceremonies, and ſacrifices of the Hebrews, and thoſe of the idolatrous nations. Some have imagined that the Hebrews adopted the rites of their neighbours, but this was ſtrictly forbidden by their law: others have concluded that the Gentiles muſt have copied from the Jews; but the cuſtoms are older than the children of Iſrael.

If it be remembered that the patriarchs obſerved the ſeaſons of the moon, brought offerings of bread, ſalt, wine, oil, the firſt fruits of the earth, and the firſtlings of their flocks, as ſacrifices or offerings of thankſgiving; erected pillars, altars, &c. by way of memorials, and called their children, as alſo certain places, by names expreſſive of ſingular providences: if it be conſidered that the Jewiſh manner of worſhip, conſiſted of various rites and ceremonies, which were only conſidered as ſhadows, types, or figures, while they offered up adoration and praiſe to the Supreme Being; and that they alſo had their emblems or hieroglyphical figures, as the brazen ſerpent, ſymbolical cherubs, &c. we ſhall, perhaps find it eaſy to believe, as hiſtory informs us, that mankind did not all at once fall into idolatry, but that many were preſerved from it, long after the hieroglyphic ſigns were adopted; and numbers were preſerved true worſhippers during all ages, while they in ſome meaſure, obſerved the cuſtoms of the nations, having only regard to the ſymbolical ſenſe.

The inſignificancy, however, of human wit and learning, in matters purely religious, appears in a ſtriking point of view, when we ſee the effects they had on the minds and manners of the Egyptians, and their ſucceſſors, in the arts and ſciences, the Grecians and Romans, &c. Theſe very people ſeem at one time or other, to have been in the practice of the moſt licentious manners, and abominable ſacrifices, and to have been beclouded in the darkeſt ſuperſtitions.

The Egyptians, before the invention of letters, from their ſtudious obſervations, on the various properties of animals, plants, &c. on the geometrical affections of mathematical figures, and from a conſideration of the uſes of various inſtruments alſo, had, with great ingenuity, derived a variety of devices or emblems, and by theſe diſpoſed in certain attitudes, they could record matters very intelligibly to thoſe who were acquainted with their hieroglyphic ſyſtem. Thus flames, which are ever moving, repreſented light and life; a globe with expanded wings, was the emblem of ether; the lion or bull indicated ſtrength; the hawk, ſwiftneſs, or the wind, &c. but unhappily for mankind, they introduced a mortal, their king Oſiris as an emblem of the deity; his wife Iſis repreſented the fertile natural world, and their ſon Orus, agriculture: to repreſent the incomprehenſible attributes of the Moſt High, recourſe was had to their emblem Oſiris, and accordingly as they wanted to repreſent wiſdom, power, &c. they metamorphoſed the emblem into monſtrous ſhapes, clapping on it the head of a lion, bull, or bird, and altering the other parts of it to other animal ſhapes, as ſuited beſt their particular deſign. Their hieroglyphics they had depicted on their altars, obeliſks, &c. and in their temples. When thoſe ſimple and eaſy characters, the letters, were found out, emblematical ſigns were, in ſome meaſure, laid aſide: it ſeems, however, that either in reverence for antiquity, or from a ſuperſtitious regard for the ancient ſymbols, they continued to uſe them on the moſt ſolemn occaſions, as at funerals, in their public aſſemblies for worſhip, &c. It was at this period that the emblematical devices received the name of hieroglyphics, i. e. holy writings: as the figures were now no longer in common uſe, it ſeems the ſymbolical meaning was ſoon forgot by the multitude,

titude, who miſtook them for real beings, and accordingly they became the objects of their idolatrous worſhip.

Many nations had heard of the politeneſs, the wealth, the refinement, and alſo of the curioſities of Egypt, as the overflowing of the Nile, and their admirable works of art; hither they reſorted, acquired the learning, and imbibed the ſuperſtitions of the Egyptians. There was alſo corn in Egypt, when famine prevailed in other parts, which brought numbers down in the time of need, as Joſeph's brethren; by theſe means, and by help of their neighbours, the Phenicians, a commercial people, it ſeems the manners of the Egyptians were tranſported to the different nations of the earth, and in different nations the ſuperſtitions and idolatry aſſumed different appearances according to the genius or notions of the people; among the Carthaginians, Allemans, Gauls, Ancient Britons, Moabites, and Amonites, human victims were offered up, and, to this day, we find the ſhocking cuſtom obtains among the inhabitants of the South-Sea Iſlands; the politer Greeks were not ſo much in the practice of theſe horrid cuſtoms; the Romans were ſtill more clear, yet, with all their ingenuity, they were the dupes of groſs ſuperſtition, and practiſed, under the name of religion, the moſt licentious rites and manners. Yet we may ſometimes ſee beautiful morals couched in their fables. Their gods were generally derived from mortals at the firſt; many of theſe were men of ſcience, ſome kings, others heroes, ſome robbers, &c. and with theſe their female relations were often deified. When divine honours were attributed to mortals, their evil deeds were alſo remembered, and hence the gods of the heathens were repreſented, even by their own deluded votaries, as ſometimes guilty of the moſt enormous crimes, at others, the patrons and lovers of virtue.

If the Greeks in their refinement in poetry and the arts, had acquired a taſte too delicate to reliſh the monſtrous ſhapes of the Egyptian hieroglyphics, which had been rather produced by the ſeverity of ſtudious reſearch, than conceived with the ſpirit and enthuſiaſm of the artiſt; if the ſtatuary at Athens arrived at elegance in the forming of the idols, what was left of ſublimity in the moral of the Egyptians, ſeems to have exceedingly ſuffered from the unlimited freedoms of the licentious Attic bards. Fiction or romance appears to have been the ſpirit of their poetry; to give a plain hiſtorical account of events ſeems to have been too ſimple for the luxuriancy of their muſe, and hence the moſt enormous fables of the heathens appear to have been derived. Thus, if any died of grief they were metamorphoſed into rocks or trees: when an aſtronomer loved ſolitary walks, if by night, the moon was in love with him, if in the morning, Aurora. If a princeſs, or celebrated nymph, had been overcome by a ruffian or ſeducer, a god had been enamoured with her, and, to effect his purpoſes, had become a bull, dragon, ſhower of gold, or a ſwan: ſhips were flying horſes, men on horſeback centaurs, lewd women ſyrens, or harpies, oranges apples of gold, &c. &c.

It ſeems worthy of admiration that, in the midſt of the monſtrous fictions of the ancients, wherein their deities were repreſented as perpetrators of the moſt horrid actions, there was ſtill preſerved among them

them a belief that, after their deceaſe, in a future ſtate pious mortals ſhould be received into bliſs; and wicked men be puniſhed for their iniquities upon earth.

They held, that the ſouls of departed mortals went immediately to the ſhades, where Charon, receiving them into his boat, ferryed them over the Acheron and Styx, to the realms of Pluto: here ſentence being paſſed on them by the judges, Minos, Eacus, and Rhadamanthus, they were either received into the delightful Elyſium, among happy ſpirits, or handed over to the furies, Alecto, Megera, and Tiſiphone, to be tormented in the dreadful pit of Tartarus, a diſmal priſon, ſurrounded with walls and gates of braſs, and the flaming waters of Phlegeton.

Here, ſay they, the giants, or Titans, who rebelled againſt Jupiter, are bound under everlaſting chains; here, the ever-growing liver of the huge Tityus, who covers nine acres, is preyed upon by hungry vultures; here Phlegyas is doomed to ſit beneath a huge overhanging rock, for ever under the dreadful apprehenſion of being cruſhed to pieces by it; here Ixion, fixed on a ſtill revolving wheel, is encompaſſed with ſerpents; here Siſyphus is doomed to roll up a huge ſtone to the top of a hill; this ever eludes his utmoſt efforts, before he reach the ſummit, bounds to the bottom, and loads with deſpair the ill-fated criminal; here Tantalus, amidſt profuſion which he cannot taſte, ſuffers the tortures of endleſs thirſt and hunger; and here the Belides for ever labour in vain to empty a well with ſieves *.

To

* To mention half, nay a fiftieth part, of the monſtrous abſurdities of their poets, would fill volumes, and perhaps tend rather to corrupt than improve the minds of youth; but as the moderns, not only poets and artiſts, but alſo the plain writer of proſe, will allude to the cuſtoms of the ancients, and, in their zeal for figurative eloquence and emblematic delineations, call upon or exhibit again thoſe fictitious beings, a ſhort ſketch of the heathen theology may perhaps have it's uſe. From Chaos, or confuſed heap, the ancients ſuppoſe the univerſe aroſe, not only the natural world, but alſo their gods celeſtial, terreſtrial, infernal, and marine. They held that Chaos brought forth Erebus, or night; and Terra, Gaia, Veſta, or the earth; from Night ſprung Ether, and the day; the goddeſs Terra, or the earth, gave birth to Cœlus, Uranus, or heaven; Ourea, or the mountains, Pelagus, or the ocean, and Tartarus, or the great deep; all hereafter to be peopled by her offspring, the immortal gods, that were yet to come into exiſtence. They tell us that Cœlus had a ſon, Saturn, that rebelled againſt, and impriſoned his father, whom he ſucceeded in preference to his elder brother Titan; that Jupiter depoſed his father, Saturn, and gave to his brothers, Neptune and Pluto, the government of the ſea, and the ſecret abyſs. The Titans, or giants, they ſay, made war on Jupiter, and in their attempts to ſcale the heavens piled rocks upon rocks, mountain upon mountain, and darted flaming hot trees at the ſkies; but Jupiter, at length overcoming them, their moſt terrible champion, Typhon, was overwhelmed or buried under mount Etna, and to the ſtruggling of the giant, in his uneaſy poſture, they attribute all the earthquakes and eruptions in Sicily. But, to avoid their endleſs labyrinth of prepoſterous fiction, it may ſufficiently anſwer the preſent deſign to exhibit a ſort of ſketch of the names and particular characteriſtics of ſome of their principal gods, heroes, &c.

To the idols which, as has been already remarked, had been in their life time kings, aſtronomers, heroes, &c. were devoted, or aſcribed

According to the heathen theology, their gods and goddeſſes, heroes, nymphs, and other fictitious beings, places, &c. were

In Name.	*preſided over*	*had as characteriſtic figures*
Nox	the night, ſleep, and dreams	ſable robe and chariot beſpangled with ſtars
Saturn	time and agriculture	bald pate and wings, in one hand a ſcythe, in the other a ſerpent
His wife Ops, Rhea, or Cybelle	the earth	her head crowned with towers, ſurrounded with animals.
Aurora	the morning	golden car and riſing ſun
Janus	the year, bounds of cities, gates, &c.	two faces, in one hand a key, in the other a ſceptre
Atlas	the ſtarry heavens	the globe on his ſhoulders
Jupiter, or Jove	gods and men, but eſpecially over thunder	the forked lightning graſped in his hand, and a ſceptre and eagle.
His wife Juno	women, marriage, childbirth	ſceptre, Iris, or rainbow, and peacock
Neptune	ſea and horſemanſhip	his large ſhell chariot and trident
His wife Amphitrite	his attendants, ſea gods and goddeſſes	the tritons and ſea nymphs
Pluto	the dead, elyſium, and Tartarus	a ſceptre, or wand, ebony throne, or chariot
His wife Proſerpine	the 3 Fates, 3 Harpies, 3 Furies, & the 3 Judges	the boatman Charon, the three-headed watch-dog Cerberus, &c.
Ceres	the harveſt	ſickle in one hand, ears of corn, or cornucopiæ in the other
Apollo	light, medicine, muſic, and archery; the 9 Muſes, 3 Graces, and 3 Syrens, Pegaſus, or the flying horſe	lyre, bow and arrows, wreath of laurel; his offſpring, Eſculapius, Phæton, Orpheus, &c.
His ſiſter Diana	woods, foreſts, and hunting	creſcent on her head, bow and quiver of arrows, dogs and nets
Mars; His wife Bellona	battles, diſcord, and tumults	military habit, ſword, ſpear, &c. blazing torch, or brand, trumpet, whip
Minerva, or Pallas	ſciences, arts, and war	ſpear in her right hand, terrible Egis in her left, at her foot the owl, or cock
Mercury, or Hermes	merchants, commerce, rhetoric, oratory	Caduceus, wings at his cap and ſandals
Vulcan	the forge, and mechanic arts	ſmith's hammer
His wife Venus	love and pleaſure	Doves, or ſwans, the three Hours, her ſon, Cupid or Hymen
Bacchus; His wife Ariadne	mirth and wine, Mænades, or Bacchæ; Thyades, Satyrs, Fauni, Sileni and Silvani	goblet, cluſters of grapes, &c. wreath of ivy and pine leaves; thyrſus encircled with the ſame
Pan	ſhepherds, groves, and paſtoral life	horns, goat's feet, crook and ſyrinx, or pipe

Hercules

aſcribed every improvement in life, and all the various acquiſitions of knowledge. Naturaliſts called the metals by their names; aſtronomers the planets; in the ſtructures of their altars might be ſeen the progreſs of mathematical ſcience; in the temples and ſtatues the improvements of the arts. The orders of the prieſts were various.

The aſtrologers, through impious fraud or deluded imagination, aſſumed to foretel future events from aſtronomical obſervations. The augurs, in like manner, from the flight of birds, and uncommon appearances in nature, &c. The auſpices from circumſtances attending the ſacrifice. Magicians, from the invocations of ſpirits, and various other ceremonies. Oracles were held in great reverence, and conſulted on the conducting of public expeditions, as alſo in the ordering of private life; and the anſwer returned by the prieſteſs, or prieſts was couched in dark, ambiguous terms, with ſo much deſign, that the event, however it turned out, eſtabliſhed the credit of the oracle, and impoſed it's imaginary divinity on the minds of the deluded and ſuperſtitious multitude.

While the polite and learned world was overrun with the worſhip of images, it's ſuperſtitions were diffuſed over many parts of the earth. It appears, that but very few, if any nations collectively, were pre-

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Hercules, renowned for his labours and ſtrength, they repreſented leaning on his club, and on his ſhoulders the ſkin of the Nemean lion which he ſlew.

Hebe and Ganymede were cup-bearers to the gods, who fed upon nectar and ambroſia.

Momus was the jeſter, and made Olympus ring with the laughter of the celeſtials.

Proteus, the keeper of his father's (Neptune) cattle, could transform himſelf into various ſhapes.

Æolus was ruler of the winds, Eurus eaſt, Zephirus weſt, Boreas north, and Notus ſouth.

Scylla and Charybdis (in reality a dangerous rock and whirlpool between Sicily and Italy) were beings alſo.

The Muſes, Graces, and Loves, waited on the happy.

Gorgons, Hydras, and Furies tormented the miſerable.

The highways had their lares, the houſes their penates, and each man his genii.

The fields had their Fauni, the vineyards their Satyri, and the foreſts their Sylvani.

The nymphs were of various orders, over the mountains the Oreades preſided, the Napæ over vallies and meads, the Dryades over foreſts; the Naiads were freſh-water nymphs, as the Nereids were of the ſea.

The particular periods of time, the different ages and circumſtances of life, the ſeveral parts of the body, the various implements of agriculture, all had their tutelary deities.

Indeed the whole univerſe ſeemed to ſwarm with theſe airy nothings.

Peace, Concord, Virtue, Honour, Faith, and Hope had all their temples; Fear alſo had it's votaries; Modeſty and Silence had their altars; Calumny and Impudence were alſo deified.

Nay ſtables, dunghills, and ſewers had their guardian gods.

ſerved in the ſimplicity of the patriarchal manner of worſhip; ſome fell into the adoration of the works of creation only, particularly the heavenly bodies; and others, making no outward profeſſion of worſhip, imagined that the ſpirit of their deceaſed anceſtors mixed with the winds, and hovered round the ſcenes of their former lives and actions; in affliction, they remembered the days of former years; they repeated over the graves, in the enthuſiaſm of grief, the deeds of their fathers: and bards, in their ſongs, celebrated their exploits, as examples for future times.

182. *Primitive Chriſtians.*] It is well known, what oppoſition was made by the Jews, to the doctrines of Jeſus: indeed, what the church endured at firſt from the heathen world, ſeems to have been generally at their inſtigation; but their influence or power was but of few years duration, when they themſelves became the objects of the moſt cruel perſecution. The ſimple doctrines, however, of Chriſtianity, and the teſtimonies of the primitive Chriſtians were ſo contrary, and ſo directly oppoſed to the ſpirit, the maxims, and manners of the world, as to render them particularly obnoxious to their idolatrous neighbours and governors.

The religion of the nations was not merely a ſpeculative doctrine profeſſed in the ſchools, or preached in the temples. The innumerable deities, and rights of polytheiſm, were cloſely interwoven with every circumſtance of buſineſs or pleaſure, of public or of private life; and it ſeemed impoſſible to eſcape the obſervance of them, without, at the ſame time, renouncing the commerce of mankind, and all the offices and amuſements of ſociety. The Chriſtian, who, with pious horror, avoided the abominations of the circus or the theatre, found himſelf, encompaſſed with ſnares, in every convivial entertainment, as often as his friends, invoking their deities, poured out libations to each other's happineſs. If a Pagan friend (on the occaſion, perhaps, of ſneezing) uſed the familiar expreſſion of "Jupiter bleſs you," he was, perhaps obliged to teſtify againſt the divinity of Jupiter.

If we caſt our eyes over the numerous remains of antiquity, we ſhall perceive, that beſides their idols and ſacrificial inſtruments, the elegant forms, and alluring fictions, conſecrated by the imagination of the Greeks, were introduced as the richeſt ornaments of the houſes, the dreſs, and furniture of the Pagans. The arts of muſic and painting, of eloquence and poetry, were deſtined to celebrate the glory of their deities and heroes. Even the common language of Greece and Rome abounded with familiar, but impious expreſſions, which the imprudent Chriſtian might too careleſsly utter, or too patiently hear. He conſidered every art and every trade, that was in the leaſt concerned in the framing or adorning of idols, as polluted by the ſtain of idolatry; from which it was his religious concern, to keep himſelf pure and undefiled.

The dangerous temptations which on every ſide, lurked in ambuſh, to ſurpriſe the unguarded believer, aſſailed him with redoubled violence on the days of the feſtivals. On theſe occaſions, which were frequent throughout the year, it was the cuſtom of the ancients to adorn their doors with lamps, and with branches of laurel, and to crown

crown their heads with a garland of flowers. The ſuperſtitious obſervances of public or private rites, were careleſsly practiſed from education and habit, by the followers of the eſtabliſhed religion; but they afforded the Chriſtians, as they occurred, an opportunity of bearing their teſtimony againſt them.

The people, who had to incur the diſpleaſure of their friends, as often as they poured out libations in their private convivial meetings, and who had, by their abſence, or non-compliance, to bear a teſtimony againſt the idolatrous feſtivals and rejoicings, (though the heathens on theſe occaſions, frequently threw them, as offerings to the offended majeſty of their fictitious deities, to the lions on the theatres, already ſtained with the blood of beaſts, and of gladiators,) had alſo to refuſe a ſubmiſſion to laws, which were contrary to their religious principle. When tribute was levied upon them, for the expreſs purpoſe of ſupporting the temples or ſacrifices of the heathen, they could not renounce the ſacred law of truth in their hearts, for the imperial edicts of earthly monarchs, however ſacred they might be accounted by a ſuperſtitious multitude.

Diſtinguiſhed from the vain and licentious world, in the plainneſs and frugality of their tables, their furniture and dreſs; it ſeems the Chriſtians were alike averſe from the buſtlings and pleaſures of this world. The defence of our perſons and property, they knew not how to reconcile with the patient doctrine, which enjoins an unlimited forgiveneſs of injuries. Their ſimplicity was offended by the uſe of oaths, by the pomp of magiſtracy, and by the active contention of public life; nor could they be convinced, that it was lawful for them, on any occaſion, to ſhed the blood of our fellow-creatures, either by the ſword of juſtice, or by that of war; and ſome were put to death, for refuſing to bear arms.

A ſentence of death was executed upon Maximilianus, an African youth, who had been produced by his own father before the magiſtrate, as a ſufficient and legal recruit, but who firmly perſiſted in the declaring, that his conſcience would not permit him to embrace the profeſſion of a ſoldier. And Marcellus the Centurion, on the day of a public feſtival, threw away his belt, his arms, and the enſigns of his office, and exclaimed with a loud voice, that he would obey none but Jeſus Chriſt, the eternal king! and that he renounced for ever the uſe of carnal weapons, and the ſervice of an idolatrous maſter. The ſoldiers, as ſoon as they had recovered from their aſtoniſhment, ſecured the perſon of Marcellus. He was examined in the city of Tingi, by the preſident of that part of Mauritania, condemned and beheaded for deſertion.

The Chriſtians decided among themſelves, the differences that happened between any of the brethren, being unwilling to expoſe them before the tribunal of an idolatrous judge.

A charity like that of the Chriſtians, which provided not only for the neceſſities of their own needy brethren, the lame, the ſick, the aged of the community, the widows and orphans, ſtrangers and pilgrims, priſoners and captives, but which likewiſe maintained the heathen poor, could hardly fail to draw the attention, and force the approbation

probation and eſteem of the world. The Pagans, who were actuated by a ſenſe of humanity, while they derided the doctrines, acknowledged the benevolence of the new ſociety.

Hiſtory informs us, of the primitive Chriſtians, that the want of human learning, was ſupplied by the aſſiſtance of the prophets, who were called to that function without diſtinction of age, of ſex, or of natural abilities; and who, as often as they felt the divine impulſe, poured forth the effuſions of the ſpirit, in the aſſemblies of the faithful. The Chriſtians' worſhip of the Supreme Being, was too ſublime for the groſs conception of the Pagan multitude, who were at a loſs to diſcover the object of their veneration, that was neither repreſented under any corporeal figure or viſible ſymbol, nor was adorned with the accuſtomed pomp of libations and feſtivals, of altars and ſacrifices.

The Chriſtians were branded with the name of atheiſts, on account of their teſtimonies againſt the plurality of gods; accuſed of ſuicide, becauſe of their cheerfully ſubmitting to martyrdom, and impiouſly charged with the perpetration of the moſt abominable crimes in their religious aſſemblies.

To the capricious violence of the heathen, fidelity and reſignation were oppoſed on the part of the Chriſtians, and their numbers increaſed through every oppoſition. The diviſions, however, that happened in their firſt aſſemblies, and the departure of ſome from the ſimplicity of truth, ſeem to have unhappily mixed together, in the obſcure hiſtory of thoſe early times, the pious zeal of the faithful, in their teſtimonies againſt the ſuperſtitions of the heathens, and the vanities of the world, with the weakneſſes, abſurdities, and the uncharitable ſeverities of others profeſſing the Chriſtian name; and ſome of thoſe called fathers, in the moments of zeal, ſeem to have rejoiced in the idea of the future deſtruction of their enemies, and to have had but partial and contracted ideas of the univerſality of the divine love; while others breathed a Chriſtian ſpirit, and acknowledged the pious among the heathen, to have been inſtructed by the Logos, or Word by whom all things were made, and Juſtin Martyr, that valiant Chriſtian, in the confidence of this truth, teſtified to the Roman Senate, that Socrates was a Chriſtian.

The zealous fathers, as they are called, in their cenſures againſt luxury and pleaſure, deſpiſed all knowledge that was not uſeful to ſalvation, and conſidered all levity of diſcourſe, as a criminal abuſe of the gift of ſpeech; gay apparel, magnificent houſes, and elegant furniture, were ſuppoſed to unite the double guilt of pride and ſenſuality; falſe hair alſo, garments of any colour except white, inſtruments of muſic, vaſes of gold or ſilver, downy pillows, (as Jacob repoſed his head on a ſtone) white bread, foreign wines, public ſalutations, and the uſe of warm baths were rejected. But of all the reformers, from the manners of the world, Tertullian appears to have been the moſt rigid and ſevere; indeed, were the cenſures of that zealous man, to be univerſally applied to the Chriſtians of the preſent day, it ſhould ſeem they would generally be involved in his reproofs. Speaking of the lofty buſkin of the actors, he ſays they impiouſly ſtrive to add a cubit to

their

their ſtature; and the practice of ſhaving the beard, he ſays, is a lye againſt our own faces, and an impious attempt to improve the works of the Creator.

At length the emperor Conſtantine embraced Chriſtianity, and the profeſſion of the moſt holy faith, became mixed with the political inſtitutions of the earth; and it is a melancholy truth, that the profeſſors themſelves, in the courſe of their inteſtine diſſentions, have inflicted far greater ſeverities on each other, than they formerly experienced from the rage of the Heathens.

183. *Origin of Commerce.*] In the account already given of the origin of idolatry, ſomething of the progreſs of arts and ſciences has neceſſarily been related; the further advancement of theſe, the origin of civil governments, and of commerce, may now be conſidered: the beginning of theſe improvements ſeem all to have originated in our weakneſſes and wants.

Though man, in a ſtate of nature, not enervated by luxury or eaſe, arrives at a wonderful agility of body, and becomes capable of enduring amazing hardſhips and fatigue, yet unaſſociated with his fellows, he is, perhaps, the moſt helpleſs of all living animals; other creatures defended againſt the inclemencies of the weather, by natural coverings of hair, feathers, &c. lie down on the bare earth, and take comfortable repoſe; they riſe up, and feaſt upon the paſture, or fall on their prey; while he, intended for more ſublime enjoyments, finds impoſed upon himſelf by neceſſity, what, perhaps, the eternal laws of truth and righteouſneſs require ſecretly in the heart of every unbiaſſed and virtuous man; he muſt aſſociate with his fellows; he cannot live altogether for himſelf; and, whether ſtrength and agility of body, or ingenuity and a delicate frame; whether a native bent of the mental powers towards quietude, vivacity, or patient thought, whether a genius active and dictatorial, or a diſpoſition placid and ſubmiſſive, mark the individual; all theſe, under proper reſtrictions, have their uſes in ſociety, and tend to the comfort and good of mankind. And it is worthy of admiration, that man, though ſo helpleſs, in a mere ſtate of nature, is, aſſociated with his fellows, the only living creature who ſuſtains every climate, and who lives and multiplies in every country, from the equinoctial to the poles.

The different diſpoſitions and conſtitutions of men, ſeem naturally to have produced in their intercourſe with each other, at an early period, the houſeholds of the patriarchs, an order which was probably derived from mutual aſſociation, and which tended to the happineſs of the whole. Perhaps we cannot imagine a more pleaſing and deſirable ſituation in this calamitous and evil world, than to be a member of ſuch an aſſociation, where each individual knows the department he has to fill in the family, performs that office, and finds every other proviſion ready to his hand, whether his duty be ſome daily labour, or the more anxious taſk of ſuperintendancy and economy. A body of this ſort, the Chriſtians, in the beginning, ſeem to have been, and they ſent relief to the brethren at a diſtance; ſome ſocieties ſtill form ſimilar aſſociations, and perhaps at calamitous ſeaſons, true Chriſtians having

having poſſeſſions cannot hold back, while they ſee their brethren labouring under diſtreſs; but they will again be religiouſly reſolved into a people having all things in common, as at the beginning.

Commerce originating in the wants of mankind, moſt likely made it's firſt appearance under the name of barter or exchange: the keeper of cattle would find an advantage in giving his milk, or the fleece of his flock for the fruits of the earth, and an equal benefit would be hereby derived to the tiller of the ground; ſo early, however, as the days of Abraham, gold and ſilver were ſubſtituted as a medium in trade; it ſeems in thoſe times they had it only in bullion, and weighed it off in ſhekels, &c. it was a later improvement to reduce it into coin.

Caravans of merchants, ſo early as the days of Jacob, travelled from Aſia down into Egypt; for the brethren of Joſeph, when they had caſt him into a pit, and had ſat down to eat bread together, they lift up their eyes, and looked, and behold a company of Iſhmaelites came from Gilead with their camels bearing ſpicery and balm, and myrrh; then paſſed by Midianites, merchantmen, and they ſold Joſeph to the Iſhmaelites for twenty pieces of ſilver; and the Midianites ſold him into Egypt, unto Potiphar, an officer of Pharaoh, and captain of the guards. The price which the merchants gave for Joſeph, being a certain number of pieces of ſilver, it ſeems the uſe of coin had now taken place, as well as the horrid traffic in the perſons of men.

The Tyrians and Egyptians are generally ſaid to have been the firſt that applied navigation to commerce; the Phenicians, it is true, were in antiquity, the moſt eminent navigators and merchants that appeared on the Mediterranean. Tyre was their crowning city, whoſe merchants were princes, and whoſe traffickers were the honourables of the earth; but ſome hiſtorians advance the probable conjecture, that the inhabitants of the peninſula of Arabia, ſhut out on one ſide from the reſt of the world by ſandy deſerts, choſe, rather than traverſe thoſe dreary waſtes, to commit themſelves in veſſels to the waves, that they were the firſt navigators, and that the articles of commerce, which the Tyrians vended over Europe, the ivory, the gold, the incenſe, ſpices, &c. were firſt purchaſed from the Arabians, who brought them from the Eaſt Indies to Egypt, by way of the Red Sea; through which channel alſo, it appears, Solomon derived immenſe wealth, by help of Hiram, king of Tyre.

The Greeks had their fleets too, but they appear to have been applied more to the buſineſs of war, than to extenſive commerce.

The Carthaginians, originally a colony from Tyre, extended their commerce over a great part of Europe. Sardinia, Corſica, with a great part of Sicily were in their poſſeſſion, and a conſiderable part of Spain was under their dominion. The Romans ſaw with admiration, the ſuperiority they derived from their fleets; and longed, like them, to be able to land their armies on diſtant coaſts, till a Carthaginian veſſel, wrecked on their territories, ſerved this diligent people as a model. But theſe, like the Greeks, ſeem to have much confined their improvements in navigation, to the purpoſes of war.

184. *Architecture.*

184. *Architecture, Learning, &c.*] Agriculture, the making of tents and management of cattle, ſeem naturally to have been the firſt employments of mankind. The uſe of metals, however, found out before the flood, ſoon enabled them to erect magnificent buildings; the ſmaller arts of life followed by ſlow degrees. Theſe were generally the purſuit of private individuals; architecture was conſidered as of national importance, and often encouraged by princes for the preſerving of their names to poſterity, or to keep their reſtleſs ſubjects from ſedition and rebellion, by keeping them buſily employed in times of peace.

A very ſuperficial view of hiſtory may ſerve to inform us, that genius and political refinement are not naturally peculiar to any particular climate or country. The Greeks, to whom the world is indebted for almoſt every improvement in the arts and ſciences, were originally, perhaps, the rudeſt mortals that have lived ſince the flood, inhabiting dens and caverns: hiſtory informs us that they gleaned a ſcanty ſuſtenance from the bounties of uncultivated nature, and often fell victims to want, to beaſts of prey, and to the more ſavage fury of each other. It is ſaid that they wandered about at large, like beaſts in the foreſts, unacquainted with the tender ties which bind families together the laws of aſſociation and marriage being unknown among them.

Colonies, from Egypt and Phenicia, it ſeems, firſt introduced learning, arts, and laws into Greece, which proved a moſt kindly ſoil for theſe improvements. Here the reſearches of the Egyptians were proſecuted with ſteadineſs, and a ſeverity of inveſtigation; hence they derived their aſtronomical ſkill; hence the ſalutary help of the ſurgeon's knife, and the kindly aid of the phyſician; here the captivating beauties of nature, the elegant living form, the luxuriant foliage of the field, the blooming tints were caught by the ingenious and imitating Greeks, and again made to delight in ſculpture and painting; their language they improved to an enchanting degree of eloquence, and the elegance in their poetic writings will probably command admiration while ever there are people that know how to read them; then how muſt they have charmed the ears of the Athenians, who irreſiſtibly felt the full force of all their native beauties; and their muſic produced an enthuſiaſm which the moderns, with all their nice, ſyſtematical diviſions, cannot effect on their auditors; and which, perhaps, proves the ſimple uniſons of the ancients to have been vaſtly more agreeable to the pathetic of nature, than all the refinements and multiplied concords of modern muſic.

Heretofore, the Egyptians and Oriental nations, had erected buildings of aſtoniſhing magnitude; it remained for the Greeks to add the delicate beauties of proportion and grace. The orders of architecture aroſe in Greece.

There are few people who have not ſometimes found covert in the ſylvan ſhades, from the ſtorm or ſcorching heat, and perhaps the firſt ſheds of the rude Greeks in their foreſts, were theſe natural coverings rendered ſtill more comfortable by help of a little art, as the running a ſort of beams acroſs from tree to tree, fixing upon theſe ſmaller boughs and

and branches, tying all together by means of twigs, and covering them with leaves, ruſhes, &c. their fences from wild beaſts were probably made up in a ſimilar way, by a kind of hedge from tree to tree. If the coloniſts introduced among them the uſe of mortar, and taught them how to erect buildings of ſtone; they probably remembered the beauties of their former manſions, the riſing columns or trunks of trees, the architraves or beams running acroſs, the luxuriant and natural feſtoon, and poſſibly they hence conceived the firſt deſigns of their moſt ſtately porticos and temples. Perhaps, alſo, that very ſtrange ornament, the ox's ſcull, which is uſed in architecture till this day, was derived from real ones hung up by their dwelling, as trophies of valour, when it was a hardy adventure to engage with thoſe brutes, as yet running wild and bellowing in the foreſts; or indeed, it may in it's origin have had ſome alluſion to their ſacrifices. Simplicity to a poverty, as columns without baſes, ſeems to have marked their firſt attempts before they arrived at elegance in architecture; the beautiful Doric order made it's appearance firſt; the Ionic has been accounted the moſt elegant, as the enriched Corinthian was the laſt production of Grecian luxuriancy. That ornament the volute, in the capitals of theſe latter orders, is ſaid to have been derived from the accidental circumſtance of a girl leaving a baſket, covered with a tile, on a bed of cellery, the plant on growing up and being interrupted by the tile, having bent downwards and aſſumed the ſpiral form. The ends of the beams in the firſt houſes of the Greeks, appearing through the wall, is thought to have firſt ſuggeſted the idea of the Trigliph in the Doric entablature.

When the Romans, in their conqueſts, had planted their eagles in Greece, and brought of it's moſt valuble productions of arts, the miſtreſs of the world began to adopt the improvements of the vanquiſhed, and Rome became the ſeat of learning, eloquence and the polite arts.

In the reign of Auguſtus, the Imperial city arrived at it's higheſt pitch of grandeur; and from it's ſhining, at this time, in arts and literature, not it's giving laws to the world, this period is called the golden age of Rome. If the Latin poets fall any thing ſhort of their predeceſſors the Greeks, it was probably becauſe theſe could not poſſibly be equalled in any language but their own, and from ſimilar cauſes, perhaps the production of the Auguſtan age excel the moſt eloquent writings of the modern Europeans, though prejudices in favour of our native tongue, which we naturally underſtand the beſt, and an incapacity to feel thoſe loſt delicacies of a dead language, which depended only on the manner of expreſſion, will ſcarcely allow us to prefer any to our own.

It is but a ſmall part of the works of the ancients, however, that have eſcaped the rage of barbarous times. The fury of the Goths deſtroyed what was curious and valuable at Rome; and the famous library at Alexandria, conſiſting of 400,000 volumes, was, after this, conſumed by the flames of the deſtructive Saracens. To a few of the learned in Conſtantinople, we ſeem indebted for what we have preſerved of the works of antiquity, during thoſe general devaſtations; and after theſe revolutions, in the republic of letters, Europe, for

about a thouſand years, ſeems to have ſcarcely produced any thing towards the advancement of ſcience: a night of Gothic darkneſs overſpread the countries once famous for learning and the arts, philoſophy was accounted dangerous among the profeſſors of Chriſtianity; literature ſought an aſylum in the Mahometan world, and the works of the ancient and learned philoſophers of Greece, tranſlated into Arabic, were cultivated under the auſpices of the caliphs of Bagdad, when their doctrines were in Europe accounted impious and heretical.

185. *Germans in their native Wilds.*] When the learning and arts of the Imperial city were overwhelmed by the rude northern conquerors, Goths, Vandals, Germans, &c. it's language and manners, it's laws and cuſtoms, alſo underwent a remarkable revolution; and by the intermixture of the rudeneſs and refinement in the conquerors and the vanquiſhed, the whole face of Europe ſeems to have aſſumed quite a new appearance, in which the Gothic features were by far the moſt ſtriking, and indeed theſe appear, in ſome meaſure, to predominate in the national characters of modern Europe to this day.

It ſeems the ravagers of Rome, before they left their foreſts, formed, in their native wilds, a number of diſtinct tribes or clans; each community governed by a ſovereign, and it's particular diſtricts by chieftains, ſeemed like a particular family or houſehold; private landed property was not known among them; as with ſome American Indians, ſo with thoſe it was a law or uſage that they ſhould jointly cultivate the ground together, and that the produce ſhould be diſtributed among them, at the diſcretion of the magiſtrate, according to their neceſſities or merits; that headed by the chieftain, the vaſſals ſhould cheerfully defend their ſovereign, and repel an hoſtile enemy from their territories. Powerful tribes granted tracts of land to others on the tenure of their aſſociating with them in a military capacity, when the exigencies of the ſtate required their aſſiſtance, and this, it appears, was the remote origin of the feudal ſyſtem.

The Germans, while they exerciſed the ſtricteſt juſtice in their own tribe, and at home the moſt generous and unreſerved hoſpitality, ſeem to have accounted it valorous and juſt, to annoy and plunder thoſe whom they were not bound to protect; to ſally upon theſe and drive off their cattle were the feats of their youth, and the ſpoil was received with pleaſure at home, as the booty of privateers is at this day welcomed into port with clamorous huzzas, while the merchant abroad with his family and friends is involved in ruin.

In the aſſemblies of ſtate, the voice of the people was to be attended to by the council, the magiſtrate, or ſovereign; a murmur coarſe, and often rude, expreſſed their diſſent; the rattling of their armour was the flattering mark of their applauſe. The women were allowed the privilege of debating in theſe aſſemblies, and this has been accounted the ſource of thoſe reſtrictions which the modern governments of Europe have been under, while the monarchs of Aſia and Africa were deſpotic, and this is the beginning of thoſe privileges which the European women have of poſſeſſing even the regal dignity.

Their meetings were commonly accompanied with a feaſt, a cuſtom which continues to this day with juries and courts; in theſe they uſed

to

to drink to excefs, and in the difgraceful moments of debauch, miftaking the effects of liquor, the impudence it produces for dignity of manners, and violence for valour, their fwords ufed to ftain their feftivals with blood. It feems it was in thefe rueful ages that the cuftom of drinking healths had it's origin; in applying the cup to the mouth and drinking, the body was peculiarly laid open to attack, and in thofe violent times it was not fafe for the individual to be quite off his guard, when he could not defend himfelf while fwallowing the liquor, in the confidence of friendfhip he deputed to another, addreffing his friend, "I pledge thee," fays he, taking hold of the cup, or, "I pledge my life in thy hands," and immediately on this fignal his friend drew his fword to defend him from fudden aflault: the manners of after-times changed the cuftom into ftated and formal expreffions of benevolence; and worfe than formality, the diffipated moderns often feem to fwallow the potion as a drink offering to party faction, to obfcenity and debaueh, under the name of toafts and fentiments.

Ever violent in his difpofitions, in the times of peace, the German flung himfelf with impetuofity on the fatigues of the chafe; chefs and dice were his amufements in the hours of leifure, to thefe he gave himfelf with equal violence; he fported away his cattle, his furniture, his armour, and would at laft rifk his perfon or liberty on a fingle throw, and in cafe it went againft him, to fuffer himfelf to be bound, chaftifed, and fold to flavery, by his weaker and more lucky antagonift, was a point of honour with him; and hence the forfeitures incurred in gaming, that deftroyer of the peace of individuals, and of families connected with them, are to this day termed debts of honour.

The folemnization of their marriages was by mutual prefents from the bride and bridegroom, in the prefence of their friends and relations, who had previoufly given their confent to the match. Their women were eminent in the difcharge of their domeftic concerns, they inculcated chaftity on the minds of their daughters, and rehearfed to their fons the valorous deeds of their anceftors. Ardent to fignalize himfelf in warlike exploits, the youth longed to be free from the cares of his mother. To take up arms and mingle with the men, was a privilege too great for him to affume merely as his own choice or inclination directed: the council of the diftrict or canton to which he belonged, enquired into his qualifications and age, and if he was deemed worthy of being admitted to the honour of being a foldier, a chieftain adorned him with the fhield and lance; and this it feems was the origin of knighthood.

Animated with courage, and full of vigour, while they fported with, and gloried in, the toils and hardfhips of war, they treated their women with affection and refpect, the praifes of thefe were the laurels of the hero, and their difapprobation covered the coward with confufion and difgrace. In the time of engagement they took their ftand near the field, and lifted up by their prefence their warriors to victory: they appeared at the fports, where the young and the valiant were urged by the points of the lance and the fword to feats of defperate agility and boldnefs, and the panting and wearied youth, befmeared with duft, with fweat, and with blood, feemed amply rewarded for his

his hazards, if he won but the ſmiles and applauſe of the fair; and hence the gallantry of the knights, and the jouſts and tournaments in the feudal times.

Full of the pomp and ſtatelineſs of behaviour which military parade naturally inſpires, the German, when he walked, ſeemed conſcious of importance; he caſt his eyes to the ground, and looked not around him for the objects of a vain and frivolous curioſity. To treat him with indignity and diſdain, was to offend him mortally: he could bear no ſtain on his perſonal character; an affront of this kind covered him with infamy, if he forgave it. The blood of his adverſary could alone waſh it away; and he called upon him to vindicate his charge or to periſh. Hence the murderous duel, by law forbidden, but by pride kept up to this day. Doubtful conteſts before the magiſtrate were referred to a combat; he ordered them to prepare for battle, made a ſignal for the onſet, and gave his award to the victor. The doubtful charge of infidelity brought by the huſband, could, in this way, be diſputed with him by the relations of the wife. Indeed they imagined, in theſe their barbarous conteſts, that the divinity muſt interfere in behalf of innocence and virtue; and the conteſts of the prieſts for the place of ſovereign druid, were decided in the ſame rude and violent way: and hence the judicial combat, once univerſally adopted over Europe.

Unacquainted with any profeſſion but that of war; diſpoſed to it by habit, and impelled to it by ambition, the German never parted with his arms; and hence the wearing of a ſword is to this day, in Europe, a faſhionable part of dreſs. They accompanied him to the ſenate houſe, as well as the camp, and he tranſacted not without them, any matter of public or private concern. They were the companions of his manhood, when he rejoiced in his ſtrength; and they attended him in his age, when he wept over his weakneſs. Of theſe the moſt memorable was the ſhield; to leave it behind him in battle, was to incur an extremity of diſgrace, which deprived him of the benefit of his religion, and of his rank as a citizen. It was the employment of his leiſure, to make it conſpicuous; he was ſedulous to diverſify it with choſen colours. Upon this, frightful figures and the achievements of the hero were rudely delineated, to ſtrike terror on the enemy; and hence the ſyſtem of heraldry, the blazoned armorial bearings, or the coats of arms.

The theology of the Germans was full of the marvellous, as well as that of the politer Romans, whom they ſubdued. The deep and ſilent receſſes of their woods were appropriated to their devotion; and here human ſacrifices were ſometimes offered up by the Druids, who aſſumed to draw prognoſtics from the blood of the victim, as it poured forth, as alſo from the running of water, the flight of birds, and the neighing of horſes. It is aſſerted, however, that the victims were criminals, and that the day of their death was a day of public mourning.

If the Romans had their Janus, their Saturn, &c. to whom they dedicated their times and their ſeaſons, theſe had their Tueſca, Wodin, Thor, and Freya, to whom they aſcribed ſimilar honours: and the idolatrous dedication of both, are ſtill kept up among the European nations, in giving days and months the heatheniſh names, as

Sunday, Monday, Tuesday, &c. January, February, March, &c. when the sacrifices have ceased, and the protection of the idol is invoked no more.

If the ancients in their fictions had their satyrs, silvans, fauns, &c. our Gothic ancestors, in their superstitious fears, fancied enchanters, giants, magicians, and dwarfs: elves, fairies, and sprights; and the terrific horrors which their romantic legends of dreadful giants, haunted castles, dismal adventures of the knights errant, to relieve distressed damsels from enchantment, &c. handed down from generation to generation, by the credulous, and impressed on our imagination at an early period, often make the stout heart of the soldier to tremble, or the firmer mind of the philosopher to shrink with fear, if cast on dreary and unfrequented wilds, in midnight darkness, or by the pale moon, which serves to light up objects of terror to his affrighted imagination, he have to wander alone, at a distance from home and every cheerful haunt of men; and these tormenting fears are felt when the tales are forgotten, and the absurdities despised

The Gothic Elysium, or Paradise, seems to have exceeded in romance all that was ever fabled of the regions of Pluto; thither they transferred their gallantry, carousing and arms, which afforded them such delight on this side of the grave. In this happy place, say they, the heroes every day, as soon as they have dressed themselves, take their arms, and entering the lists, fight till they have cut one another to pieces: this is their diversion; but no sooner does the hour of repast approach, than they remount their steeds all safe and sound, and return to drink in the palace of Odin, where the Valkyriæ, beautiful virgins, pour out their liquor to the heroes.

SECTION XXI.

Middle and Modern Times, exhibiting the rude Manners of the Feudal Times, with the gradual Advancement of Europe in Arts, Sciences, and Commerce; and the Secession of the Protestants from the Church of Rome.

186. *Revolutions, Feudal System.*] When the rude northern warriors had poured forth like a deluge from their native wilds, and taken possession of the more cultivated territories of the south of Europe, and of the northern parts of the continent of Africa, the change of their affairs on their new acquisitions, necessarily forbade their former regulations from continuing among them; heretofore a nation or tribe, from their simplicity of manners, could wander about as inclination or the chase directed; now even the private individual must know his home; attend to the concerns of his own particular family, and only appear in public

public when the exigencies of ſtate, and the call of his chief required his preſence.

Formerly, valour or wiſdom procured the public eſteem and confidence, now other diſtinctions, beſides thoſe of perſonal abilities and virtue, muſt mark out the individual for the tribute of reſpect or adulation. Property muſt be able to ſtamp the title of lord upon a few, and it's abſence mark out the reſt of mankind to do them homage.

On the conqueſts of the Goths, tracts of their new poſſeſſions were allotted to their chieftains, who had diſtinguiſhed themſelves in the enterprize, theſe were called alſo real or propriety. Much remained ſtill to diſpoſe of; theſe were called the lands of the fiſc, or the property of the community at large; and as ſuch, committed to the charge and diſpoſal of the ſovereign. Theſe he granted under the name of fees, to his favourites, on condition of furniſhing him with military force, when he ſhould have occaſion to engage with his enemies; the feudal poſſeſſors diſpoſed of theſe in ſmaller portions to their vaſſals, on the ſame military tenure. At firſt the grants were revokable at the will of the donors, and while cordiality and confidence remained between the ſovereign and the barons, between theſe and their vaſſals, the feudal ſyſtem was a powerful aſſociation for the practice of war; and fraught with the ſeeds of inteſtine diviſions, which afterwards broke out, and for a time rendered a great part of Europe, one continued ſcene of calamity and deſolation. The feudal lords ſoon extorted from the ſovereign a confirmation for life of thoſe lands, which being at firſt purely gratuitous, had been beſtowed only during pleaſure; and not ſatisfied with this, they prevailed, at length, to have them converted into hereditary poſſeſſions.

Conteſts frequently happened between the lords, and theſe were decided in private wars; they ſummoned their vaſſals to buckle on their armour, and appeared at their head to decide the diſpute in the field; and as ſhelters to flee to, from ſudden invaſions, or when the battle went againſt them, caſtles were raiſed in their ſeveral diſtricts.

In the feudal times, the leaders of the people, in the day of battle, were, in times of peace, the arbiters of juſtice; they appointed courts in their particular diſtricts, and aſſumed to diſpenſe laws to the people: a few imperfect traditionary and local uſages alone influenced the will of the baron; and diſputed points were referred to a combat between plaintiff and defendant; or, to prove his innocence, the culprit was to plunge his arm in boiling water, to lift a red hot iron with his naked hand, walk blindfolded and barefoot over burning plowſhares, or keep his arms extended for a full hour before a crucifix, without any ſupport: theſe dreadful experiments were called appeals to Heaven, and entered upon with a great form of devotion; and, whoever eſcaped unhurt, or came off victorious, was pronounced to be acquitted by the judgment of the Deity; this was called the ordealtrial, which, with the judicial combat, long prevailed in the courts of Europe.

The Chriſtian religion, which they had embraced, as it was now profeſſed, prevented not theſe dreadful calamities; the nobles, ſuperior to all reſtraint, harraſſed each other with perpetual wars, oppreſſed their

their fellow-ſubjects, and humbled or inſulted their ſovereign. Yet theſe, with all their ſtate, could neither read nor write, ſo little remained of literature in Europe; and, when a grant was to be confirmed by charter, when they could meet with a clerk or learned man, for ſo they termed any that could read or write, to negociate this learned and important buſineſs, the baron or ſovereign, in proof of his ſincerity, and that he might be ſolemnly bound to fulfil the engagement, what he could not ſubſcribe by writing his name, he formally marked with the ſign of the croſs; a cuſtom obſerved by the illiterate at this day, and hence the ſubſcribing an article is now called ſigning.

What veſtiges of the literature of the ancients might have eſcaped the firſt fury of the illiterate Goths, ſeem, during theſe times, to have fallen under a violence equally, or, perhaps more deſolating. The Saracens having obtained poſſeſſion of Egypt, the Europeans were deprived of paper, which they uſed to derive from the papyrus, a plant of that country. Parchment was ſcarce, and former writings, perhaps a book of Livy or Tacitus, were eraſed to make room for new compoſitions.

186. *Cruſades.*] It was in theſe calamitous times, that the cruſades took place; expeditions which engaged the attention of Europe, and ultimately brought about a wonderful change in it's governments, laws, ſciences, and manners in general. Before this period, it's ſeveral nations had but little acquaintance with each other. Unaſſociated by commerce, and unreſtrained by general laws, inteſtine broils had harraſſed the people, and prevented refinement and a ſoftneſs of manners from taking place among them. Now impelled by the ſame zealous motives, not only the gallant nobles of the age, with their martial followers, whom the boldneſs of a romantic enterprize might have been apt to allure; but men, in the more humble and pacific ſtations of life, eccleſiaſtics of every order, and even women and children engaged with emulation, in an undertaking which was deemed ſacred and meritorious. Six millions of perſons aſſumed the croſs, the badge that diſtinguiſhed the zealous adventurers; and the endleſs little diſputes which had ſtained the ſeveral cantons of Europe with blood, were now loſt in one large common cauſe. The firſt efforts of valour, animated by enthuſiaſm, were irreſiſtible; part of the leſſer Aſia, all Syria and Paleſtine, were wreſted from the Mahometans; and the banner of the croſs was diſplayed on Mount Sion.

While we read with concern, of the miſtaken zeal of the adventurers, who, from a partial regard for a particular ſpot of ground, could devote the lives of thouſands to the ſword, and, perhaps, implant a prejudice in the minds of the Muſſulmans, againſt the moſt holy and peaceful religion, which is not yet removed from their breaſts; we ſhall, perhaps, treat with affection and reſpect, the amiable weakneſs of the firſt leader of theſe expeditions. Godfrey of Bourllon, a young and valorous prince, having, at the head of the numerous armies of Europe, taken poſſeſſion of Jeruſalem, in the profuſion of the honours, which his adherents heaped on him, (and in thoſe days, heraldry

raldry was putting forth it's vain and gaudy bloſſoms apace) in the midſt of youth and military ſplendor, he declared, that he would not wear a diadem, in that city, where his Saviour had been crowned with thorns."

187. *Refinement of Manners.*] When the cruſades had aſſociated the different nations of Europe together, what remained of magnificence or refinement in the eaſt, by this intercourſe naturally circulated to the weſtern part of the continent; the firſt rendezvous of the adventurers was commonly in Italy, in which Venice, Genoa, Piſa, and other cities had begun to apply themſelves to commerce, and had made ſome advances towards wealth, as well as refinement. They embarked there, and, landing in Dalmatia, purſued their route by land towards Conſtantinople. This magnificent city flouriſhed in commerce; it was the only mart in Europe for the commodities of the Eaſt Indies; and here curious manufactures were carried on. Again Italy copied Greece, and diſſeminated it's arts over the reſt of Europe, when the Eaſtern Empire was reduced under the dominion of the Turks.

When the attention of Europe was turned to the recovery of Paleſtine, out of the hands of the Mahometans, it would have been accounted flagrantly impious to have raiſed commotions at home. In the mean time, the barons being deeply engaged in theſe remote enterprizes, ſome having even diſpoſed of their patrimonies, in order to proſecute theſe expenſive expeditions, the ſovereigns were gradually riſing into power; another moſt effectual cruſh of the inſolence of the nobles, and beginning of refinement in modern times, was the enfranchiſement of cities, and forming them into bodies corporate, with the privilege of a deciſive voice in enacting of laws. The manumiſſion of the huſbandman, from the debaſement of ſlavery, which they groaned under as a political inſtitution, was a later refinement in the manners of Europe; a refinement, which, it is to be lamented, is not yet univerſally adopted in the northern parts of the continent. The gentle ſpirit of the Chriſtian religion, together with the doctrines which it teaches, concerning the original equality of mankind, as well as the impartial eye with which the Almighty regards men of every condition, and admits them to a participation of his benefits, are inconſiſtent with ſervitude. The humane ſpirit of the Chriſtian religion ſtruggled with the maxims and manners of the world, and contributed more than any other circumſtance to introduce the practice of manumiſſion. The form of liberating the ſlave was executed in the place of worſhip, with ſolemnity, and conſidered as an act of piety highly meritorious, and acceptable to Heaven.

As many of the profeſſors of Chriſtianity have, in later times, unhappily adopted the practice of enſlaving the poor helpleſs natives of Africa, and in defence of the cruel buſineſs, which degrades humanity, perſuaded themſelves that our brethren, the negroes, are a race of men inferior to Europeans in natural rights; it may be well for us to recur to the days of our anceſtors, and ſee the complexion our climates produce, whether it always ſtamped on it's profeſſors

feſſors the dignity, which modern Europeans aſſume, when they compare themſelves with the people they call ſavages. In the feudal times, the number of ſlaves in all the nations of Europe was prodigious, they compoſed the greater part of the people, and their lot was extremely oppreſſive and mortifying. Diſtinguiſhed from freemen by a peculiar dreſs, they were alſo obliged to ſhave their heads, and by this diſtinction they were reminded every moment of the inferiority of their condition: the life of a ſlave was deemed of ſo little value, that a very ſlight compenſation atoned for taking it away; on very ſlight occaſions they might be put to the rack on queſtion; their maſters had abſolute power over their perſons, and could puniſh them with death without the intervention of any judge. They united together in matrimony, as huſband and wife, but were not allowed the much-revered ceremony of a prieſt; and themſelves and their offſpring were equally at the diſpoſal of their maſter, who could transfer them like cattle or any other property.

188. *Laws.*] When the Germans embraced the profeſſion of Chriſtianity, they held the prieſts in a veneration ſimilar to what they had paid to the Druids in their foreſts; what little remained of the laws and the learning of the Romans, was in the poſſeſſion of the eccleſiaſtics, who formed a regular ſyſtem of juriſprudence, which, in contradiſtinction from the proceedings of the civil courts, was called the canon law. The arbitrary deciſion of the martial tribunals of the barons, from which there was no appeal, and the mildneſs and equity of the proceedings in the eccleſiaſtical courts, eſtabliſhed in regular, orderly gradation, and through all which, a cauſe might be carried by appeal, until it was determined by that authority which was held to be ſupreme in the church, intimated to the people, the value of well digeſted laws.

The ſovereigns aimed at a regular national code, and encouraged appeals from the courts of the barons; theſe by degrees ſunk into contempt, while the royal courts, originally ambulatory, were held in fixed places, and at ſtated ſeaſons, and by the regularity of their proceedings, and the equity of their deciſions, became the objects of public confidence. Statutes were enacted for aboliſhing the practice of private wars; by degrees the judicial combat and ordeal trial were laid aſide, and the manners of Europe gradually refined.

It was towards the middle of the twelfth century, that a copy of Juſtinian's Pandects was accidentally diſcovered in Italy. Men of letters ſtudied the new ſcience with eagerneſs, and were rewarded for their labours with the honours which had heretofore been conſidered as peculiar to military valour. In a few years profeſſors of civil law were appointed, who taught it publicly in moſt countries in Europe. The dignity of knighthood, deemed a diſtinction ſuperior to royalty, and which monarchs were proud to receive at the hands of their private gentlemen, was alike conferred on the warrior and the man of ſcience.

It was in thoſe days, that benefit of clergy was inſtituted. The book was handed to the convicted felon, to read before the court. If he

he performed this, the clerk pronounced aloud, *Legit ut Clericus*, he reads as a clergyman, and the criminal was acquitted.

189. *Knight-Errantry, Heraldry, Academies, &c.*] When the power of infolent nobles was not yet reduced under the domination of laws, their caſtles would, according to the manners of the owner, be regarded as ſeats of generoſity and hoſpitality, or dreaded as dens of violence and oppreſſion. In thoſe days, the knights turned out in ſuccour of diſtreſs; the ſame ſpirit of enterprize, which had prompted ſome to take up arms in defence of the oppreſſed pilgrims in Paleſtine, incited others to declare themſelves the patrons and avengers of injured innocence at home. And when the Mahometans had prevailed in the conteſts for Jeruſalem, and driven the Chriſtians out of Aſia, the knights became errant, they wandered about in queſt for opportunities of aſſerting the cauſe of the feeble and oppreſſed, the widow and fatherleſs, eccleſiaſtics, &c. who could not bear arms in their own defence: their romantic and hazardous enterprizes were accounted equally religious and valiant, they purchaſed the hero univerſal reſpect, the tables of nobles and ſovereigns were open to the adventurer, and they won him the company and eſteem of the women. Valour, humanity, courteſy, juſtice, and honour were the characteriſtic qualities of chivalry. Knighthood was conferred upon the brave and the virtuous, with great ſolemnity in the public places of worſhip, by the hands of kings, who now began to be conſidered as the fountains of honour. Theſe rewarded the heroes with their countenance, and adorned their ſhields with new achievements; by theſe armorial bearings, families were diſtinguiſhed: devices, emblematic of the qualities of the hero, or expreſſive of his feats, began to be multiplied, and heraldry became a ſyſtem for flattering of pride, and for marking out unbecoming diſtinctions among mankind, ſcarcely leſs complicated, though far leſs ingenious, than that of the Egyptian hieroglyphics in antiquity.

Few marks of learning adorn the Gothic eſcutcheon; it exhibits no great ſhow of geometrical lines or figures, of improved machines or inſtruments of ſcience. Chivalry, in which valour, gallantry, and religion were ſo ſtrangely blended together, was better acquainted with croſſes, croſſets, and ſhells, with ribbons and fillets, and locks of the hair, and other little preſents of their ladies, with beaſts of the chaſe and inſtruments of war, than with matters of ſcience; a monkiſh figure, with a book, or ſome ſuch childiſh device, ſeems to have been the grandeſt monument they were able to erect in the ſyſtem of heraldry to the honour of learning. Their anceſtors uſed to wear ſkins of beaſts round their ſhoulders, and to adorn their helmets; hence the creſt, and the furs or drapery hanging round the eſcutcheon; the ſupporter of the ſhield was the hero who bore it on his arm in the field, he might be ſtrong like a bull, and the family of his wife as fierce as lions, and equally concerned with himſelf to ſupport the eſcutcheon unſtained; and heralds have fixed two ſupporters to the ſhield which are ſometimes beaſts, birds, &c. as well as human figures. They uſed to fall on in battle, with a ſhout of ſome ſentence, and hence the motto, in coats of arms.

The vanity of human nature ſeems ſoon to have conceived the idea of diſtinguiſhing honourable offices among mankind with external marks of diſtinction, as crowns, ſceptres, &c. Theſe ſhadows of power obtained among the ancients, and the man of the public had naturally the title importing his office; but our Gothic anceſtors ſeem, in defiance to nature and to truth, to have reduced epithets or qualities, which are inherent things, to a mechanical ſyſtem, and applied them indiſcriminately to every various diſpoſition of man; and to this day, the people, copying the manners of their fathers, will ſeriouſly apply the titles of honourable, reverend, noble, excellent, gracious, moſt gracious, &c. without ſo much as knowing, or having heard of the character of the officer; the laws of heraldry have eſtabliſhed the titles, and the uſages of the people coincide with the abſurdity.

When the Europeans had become ſo far changed in their manners, as to be capable of reliſhing improvements in ſcience and letters, the languages of the ancients were ſtudied with avidity. In the cathedrals and monaſteries, ſchools were erected, and the learned were rewarded with lucrative emoluments, and academical honours in the colleges and courts; caps, gowns, bands, &c. diſtinguiſhed the learned profeſſor; and the titles of batchelor, maſter, doctor, &c. were conferred according to his proficiency, and called his degree. In the places of worſhip, the Latin tongue was generally uſed. The modern languages of Europe were yet rude and uncultivated; the works of the learned in thoſe days were written in the Latin; which, though they were not comprehended by the multitude at home, could be read by the learned all over Europe. The ancients, thoſe copiers of nature, particularly the Greeks, had firſt liſtened to, and cultivated the beauties of, their own native language, before they entered upon the more ſevere ſciences; this naturally produced elegant hiſtorians and poets. Our anceſtors, on the contrary, delighted in abſtruſe metaphyſical ſpeculations, incomprehenſible to themſelves, and to every body elſe: and while they were preciſely acquainted with the moſt minute grammatical diſtinctions of the ancients, and indeed every thing but their beauties, their own rude languages, produced by the unkindly jumbling together of different and contrary tongues, remained uncultivated and unrefined. They loaded ſcience with pedantic rules; and the natural and eaſy forms which logic and rhetoric aſſume, they anatomized into wearieſome diviſions, which the univerſities now think fit to lay aſide. In thoſe days, genius unloaded with learning, was neceſſarily ſhut out from the temple of ſcience; pedantry was miſtaken for wit, and a memory charged with prepoſterous analyſes, for a mind fraught with valuable information.

190, *Arts, Sciences, Commerce, &c.*] It was in latter times that the nations of Europe applied themſelves to the cultivation of their own languages, to the ſtudy of mathematics, and to phyſical reſearches; they had already become familiar with the writings of the ancients, and hence derived beauties to their own. Their advances or improvements in ſcience they ſoon acquired, and purſued their enquiries far beyond what the philoſophers of Greece or Rome had ever conceived. Chemiſtry, derived from the Arabians, laid open to them the minute wonders

wonders of the works of creation; the diſcovery of the mariner's compaſs, in the beginning of the fourth century, led to improvements and diſcoveries, which the ancients were unacquainted with. The invention of gunpowder, about the ſame time, while it quite altered the buſineſs of war, and perhaps rendered it rather leſs deſtructive than heretofore, gave them a ſuperiority in the laborious works of the mine, and to theſe the world will, perhaps, be indebted for that neceſſary article coal, when peace and population ſhall have planted fields of corn, and cheerful towns, in the place of ſolitary foreſts, and boggy meres. The fifteenth century was remarkable for producing the valuable diſcoveries of printing, and engraving upon copper; arts whereby the learning and improvements of ancient and modern times, the repreſentations of works of art and of natural productions, are exhibited, and what we ought to prize above all, the records of the goſpel are hereby diffuſed abroad among mankind. During this period, commerce appears to have undergone ſome conſiderable revolutions. When Conſtantinople, the mart of Europe, had fallen into the hands of the Turks, the trade and improvements of the Greeks devolved upon their neighbours, the Italians or Lombards. Companies of theſe, and the Jews, ſettled in different countries, and carried on the commerce of the world. To the ports of Egypt, the rich productions of India were brought, and from hence they were taken, and diſtributed over Europe, by the Lombard merchants. The nations that lie round the Baltic, and along the coaſts of the northern ſeas, diſtinguiſhed themſelves early as an enterprizing maritime people; the depredations of theſe under the name of Danes and Normans, or Norwegians, have been ſeverely felt in theſe iſlands. It is ſaid, that they were well acquainted with the coaſts of North America, long before that continent was diſcovered by the ſouthern nations of Europe, and their contiguous ſituation with their buſineſs of fiſhing, ſo neceſſary for their ſupport, and the iſland of Iceland, lying between their country and America, reducing one long perilous voyage, to two leſs hazardous and tedious, ſeem to give the account the appearance of probability.

About the middle of the thirteenth century, the ſpirit of commerce awoke in the north. To defend themſelves againſt the pirates which infeſted their ſeas in thoſe times, the cities of Lubeck and Hamburgh entered into a league of mutual defence; in a ſhort time, eighty of the moſt conſiderable cities ſcattered through thoſe vaſt countries, which ſtretch from the coaſt of the Baltic, to Cologne on the Rhine, acceded to the confederacy; this was called the Hanſeatic league, and the towns which compoſed it, Hans Towns.

This confederacy became ſo formidable, that it's alliance was courted, and it's enmity dreaded by the greateſt monarchs. The members of this powerful aſſociation, formed the firſt ſyſtematic plan of commerce known in the middle ages, and conducted it by common laws, enacted in their general aſſemblies. They ſupplied the reſt of Europe with naval ſtores, and pitched on different towns, the moſt eminent of which was Bruges in Flanders, where they eſtabliſhed ſtaples, in which their commerce was regularly carried on. Thither the Lombards brought the productions of India, together with the manufactures of

Italy, and exchanged them for the more bulky, but not leſs uſeful commodities of the north. The Hanſeatic merchants diſpoſed of the cargoes which they received from the Lombards in the ports of the Baltic, or carried them up the great rivers into the interior parts of Germany.

As Bruges became the centre of communication between the Lombard and Hanſeatic merchants, the Flemings traded with both in that city to ſuch extent, as well as advantage, as ſpread among them a general habit of induſtry, which long rendered Flanders, and the adjacent provinces, the moſt opulent, the moſt populous, and beſt cultivated countries in Europe.

By alluring Flemiſh artizans to ſettle in his dominions, as well as by many wiſe laws for the encouragement and regulation of trade, Edward III. gave a beginning to the woollen manufactures of England, and firſt turned the active and enterpriſing genius of the people towards thoſe arts, which have raiſed the Engliſh to the higheſt rank among commercial nations.

In the latter part of the fifteenth century, the Portugueſe diſcovered a paſſage to India by the Cape of Good Hope; and, about the ſame time, the Spaniards, attempting to ſail thither by the weſt, under the adventurous and ſteady Columbus, a native of Genoa, fell in with America, and called it the New World, and the Weſt Indies, to diſtinguiſh it from India in the Eaſt. From this period the weſtern nations of Europe appear to have increaſed in political conſequence, to have improved in arts and ſciences, and to have flouriſhed in commerce; they acquired poſſeſſions in the oppoſite quarters of the earth, and became acquainted with every climate in the world. It was the intereſt of the people, whoſe poſſeſſions were thus enlarged, to improve with diligence the art of navigation; but the perfect knowledge of this extenſive ſcience includes that of almoſt every other. Whatever obſervations are made in contemplating the ſtarry heavens, in meaſuring of lines, ſuperficies, and bodies on the ſurface of our earth, whatever diſcoveries in the phyſical world, and whatever improvements in the ſcience of mechanics; even the ſtudy of languages, and a knowledge of mankind, their complexions, manners, and diſpoſitions, their countries, laws, commerce, &c. all ſeem peculiarly intereſting to the mariner. Fixed to no particular ſoil, he takes up his abode in one of the completeſt pieces of mechaniſm that human wiſdom has produced; it is his chariot, his houſe, his labour, and his toy; in this he commits himſelf to the deep; he gives his ſails to the winds, and obſerves, with attention, the phenomena of nature; he converſes with the ſtars; they are his guides, as he traverſes, in his bark, the pathleſs ocean; and, by mathematical calculation, he knows the diſtance of his deſired port.

It is, perhaps, owing to commerce, more than any other object, that modern Europe has advanced to the higheſt improvements ever yet attained in arts and ſciences; this had rewarded the artizan for his ingenious production; the wandering ſailor for his toils and perils, and the man of ſcience for his moſt painful reſearches. The Portugueſe gave themſelves early to the ſtudy of naval affairs: theſe and the Spaniards,

niards, from their intercourſe with the Mahometans, who long maintained their dominions in Spain, ſeem for a time to have been able to inſtruct the other nations of Europe in aſtronomy and other ſciences, but theſe diffuſed, experiments multiplied, and gave to the moderns a ſuperior knowledge in the laws of nature, in works of art, and in mathematical theſes. By help of optical inſtruments, they puſhed forward their obſervations in the ſtarry heavens, and alſo laid open the minute works of creation. By the priſm the child became delighted, and the philoſopher contemplatively amuſed: bounding to the tops of mountains, by help of glaſſe syouth extended his proſpects over diſtant lawns and waters with delight; and feeble old age, remaining below, by the ſame artificial help, read with comfort and eaſe the page that would otherwiſe have been an unintereſting blank, through failure of ſight. The dreadful lightning, which ſtrikes affrighted mortals with aſtoniſhment, and ſometimes with blindneſs and death, by electrical machines was produced in a ſmaller degree, and thus applied to the kindly purpoſes of health. They waited no longer with anxiety for the coming of ſunſhine, to mark out on the dial the hour of the day; whether the ſky was cloudy or ſerene, the paſſing hours were marked out, as they rolled along, by the help of clocks; to theſe they gave a voice, and the clang of the hours diverſified the ſilent watches of the night, as well as the ſeaſon of buſineſs and labour. The changes of the weather were pointed out to the huſbandman in his cottage, he ſaw by his barometer the approach of rain; and by counſel of theſe ſilent and philoſophic monitors, he prepared for the buſineſs of dry weather, when his fields were yet drenched in water, and the rains not yet ceaſed. No longer, as in ancient times, need "two women be grinding at the mill," that is bruiſing corn to powder, with great labour, between a couple of ſtones, or flags, by hand. Rivers and brooks of water are arreſted in their progreſs, and made to perform that painful office, as they haſten to the deep. And ſo far do they excel in the ſcience of mathematics, that even the tumults of war, as well as the affairs of commerce, and the arts of navigation, are reduced by the moderns to a regular ſyſtem, and poor mortals are made to deſtroy one another by mechanical rules.

191. *Seceſſion from the Church of Rome.*] The ſixteenth century is remarkable for the ſeceſſion of Martin Luther, and after him John Calvin, from the church of Rome. In this age, the diet of Spires alſo proteſted againſt the doctrines of that community, and hence the name of Proteſtant is derived. Before this period, during ſeveral centuries, Proteſtants had exiſted under different names, and in different countries. In the ſouthern parts of France, in the vallies of Piedmont, they were called Vallenſes, Albigenſes, Leoniſts, &c. It is remarkable, that Reinerius, a Dominican, and Inquiſitor General, ſays of this people, "They were older than any other ſect, having exiſted from the times of the apoſtles: that there was ſcarce any place wherein that ſect was not: that they had a great ſhew of piety, lived juſtly before men, and believed juſtly concerning God; therefore, ſays he, they were the greateſt enemies the church of Rome had." Prodigious armies were raiſed againſt them; at firſt they defended themſelves by

arms, but being at laſt overcome, they were diſperſed abroad: ſome fled into Calabria, others found ſhelter in Provence, and the neighbouring Alps. In England, Proteſtants were numerous in the fourteenth century; they were called Lollards, from Walter Lollard, who preached in Germany about the year 1313; of theſe was John Wickliffe, rector of Lutterworth. He tranſlated the Bible into Engliſh, and wrote commentaries upon it: his doctrines ſpread over England, and a great part of Europe: they were advanced and propagated in Bohemia, and, in ſupport of theſe, John Huſs and Jerom of Prague ſuffered martyrdom: they had been ſummoned to the council of Conſtance, and Sigiſmund, the emperor, granted them a paſs; notwithſtanding which they were conſigned to the flames. The Bohemians expected little ſecurity under a prince who had broken his word; they revolted from the emperor, and contended with him in arms. At firſt they were victorious, under the famous John Ziſka: at laſt, being overpowered, they retired to the mountains and caves, and were diſtinguiſhed by the name of the Bohemian Brethren. It was not till the ſixteenth century that the Proteſtants obtained a political or legal eſtabliſhment; after this period, their profeſſion in many places became national. Heretofore they had been a recluſe, or perſecuted people, and had little to do in cabinets or courts; while the ſee of Rome extended it's juriſdiction over the nations of Europe, directed their councils, and influenced their manners.

The church of Rome, during many centuries—to relate on the one hand the ambition, intrigues, and wars of ſome of their popes; the corruptions and licentiouſneſs of ſome of their clergy, their groſs ſuperſtitions, and ſevere perſecutions: to declare, on the other, the laudable zeal of others of their eccleſiaſtics in reforming the ſuperſtitious, barbarous, and bloody manners of our rude Gothic anceſtors, their pious examples, in liberating ſlaves, and ſuccouring diſtreſs; the Proteſtants—to tell their faithfulneſs through much ſuffering, their diviſions, and their falling off, when they acquired political conſequence, to the unchriſtian practice of perſecution, in which ſo many thouſands of themſelves had ſuffered death, and of which very few of the profeſſions kept perfectly clear: to exhibit all theſe, alike exceed the deſign of this work, and the capacity of the writer.

It may here be remarked, however, that as it would be an indignity in ſocial life to attempt to enforce affection and eſteem by methods of violence, ſo, in a religious capacity, perſecution ſeldom anſwers the intended purpoſe. There is a firmneſs experienced, in his teſtimonies, by the well-meaning enthuſiaſt, for the principles he has imbibed in the education of his youth, as well as by him whoſe underſtanding has been convinced, ſuperior to the ſhackles of a bigotted education. As religion is altogether a work in the heart, and is in ſum and ſubſtance nothing but Love; ſo thoſe that have had this ruling principle within them, whatever might have been the notions of the head, the outward profeſſion, or ſpeculative opinion, have felt a divine ſupport in their trials, which has mocked every attempt of bigotted violence to ſupplant it, and triumphed over whips and racks, flames and death. The martyrs

in every age of perſecution, of whatever nation, language, or profeſſion, atteſt this remarkable and admirable truth.

192. *Gathering of the Friends.*] Since the receſſion already mentioned from the church of Rome, another, perhaps more remarkable, though accompanied with leſs violence, has taken place in the Chriſtian world. About the middle of the laſt century, a number of unlearned men and women appeared in England, declaring againſt the different eſtabliſhments and obſervances of that day, whether derived from the authority of Rome, Oxford, or Geneva, or from the doctrines of thoſe who were called diſſenters under different names. They were particularly diſtinguiſhable from other profeſſors, in renouncing war and worldly vanities, in receiving the doctrines of baptiſm, communion, unction, &c. in a ſpiritual ſenſe. They held that words were not neceſſary to worſhip, and waited in ſilence, in their religious aſſemblies, for the influence of the holy ſpirit on their minds. They maintained, that every man had this internal monitor, or divine light, within him, and that all who were obedient to it, in every age and country, and of whatever religious profeſſion, were true believers, and formed the true Chriſtian church. To the integrity and boldneſs of theſe ſimple people, ſevere perſecution was oppoſed; but their numbers increaſed through every oppoſition, and meetings of them were gathered in every county of England, in Wales, Scotland, and Ireland, on the continent of Europe, and in America, and the Weſt Indies. The Friends of later times, though they mingle with their neighbours in the duties or engagements of civil ſociety in a more enlarged way than they poſſibly could, when under perſecution; though they are diſtinguiſhable from others by their addreſs, and though the world, in it's varying faſhions, have left them as in the garb of the days of Cromwell, ſeem yet, as to their religion, to be but very little known, their particular, or diſtinguiſhing, tenets to be but little underſtood by the people at large. Perhaps this is not leſs owing to a backwardneſs in themſelves than to a want of the ſpirit of enquiry among their neighbours. They well know that piety is not confined to any particular people or ſociety, and are not haſty in bringing forward ſubjects of religious controverſy, believing that, on theſe occaſions, as well as others, it is well to wait for the internal evidence of it's being their duty to ſpeak, rather than to be haſty or forward in their own wills; and, perhaps from the fear of making ſo delicate a ſubject as religion too common a topic of converſation, they are ſometimes ſilent when it might be ſeaſonable to be a little open or communicative. They frequently diſtribute their books gratis to enquirers, and have been at the expence of having them tranſlated and printed in different languages for the ſame purpoſe. Yet they perhaps ſtill owe the world a more public declaration of thoſe principles which ſeparate them, and keep them, like a diſtinct caſt, in ſome of the moſt intereſting concerns of human life; perhaps they ought always to announce to the people at large the publications of their different writings.

PART VI.

DESCRIPTION OF EUROPE.

IN the fluctuating changes of human affairs—Europe, though by far the leaſt, ſtands at preſent the moſt eminently diſtinguiſhed quarter of the globe, in it's ſuperior ſkill in ſciences and arts, and conſequently in it's commerce and political conſequence. Here alſo the profeſſion of the Chriſtian name is more generally diffuſed than in any other part of the earth. It's languages ſeem as mixed as it's revolutions have been various, and all derived from theſe ſix original ones and their different dialects, viz. the Celtic, Sclavonic, Teutonic, Greek, Latin, and Gothic. Europe is bounded on the weſt by the Atlantic Ocean, on the north by the Icy Sea, on the eaſt by Aſia, and on the ſouth by the Mediterranean, which ſeparates it from Africa. It is ſituated betweeen the 10th degree weſt and the 65th eaſt longitude from the meridian of London, and between the 36th and 72d degrees of north latitude, extending about three thouſand miles in length, and of two thouſand five hundred in breadth. It's diviſions are as follow:

Countries.	*Length.* miles	*Breadth.* miles	*Chief Cities.*	*Latitude.* D. M. S.	*Longitude from Greenwich.* in Degrees. D. M. S.	in Time. H. M. S.
England	360	300	London	51 31 0 N.	0 5 37 W.	0 0 22½ aft.
Scotland	300	150	Edinburgh	55 57 57 N.	3 12 15 W.	0 12 49 aft.
Ireland	285	160	Dublin	53 21 11 N.	6 6 30 W	0 24 26 aft.
Norway	1000	300	Bergen	60 11 0 N.	5 45 0 E.	0 24 0 bef.
Denmark	240	180	Copenhagen	55 40 45 N.	12 35 15 E.	0 50 21 bef.
Sweden	800	500	Stockholm	59 20 35 N.	18 3 55 E.	1 12 16 bef.
Ruſſia	1500	1100	Peterſburgh	59 56 0 N.	30 19 15 E.	2 1 17 bef.
Poland	700	680	Warſaw	52 14 0 N.	21 0 30 E.	1 24 2 bef.
Pruſſian Dominions	uncertain		Berlin	52 32 30 N.	13 26 15 E.	0 53 45 bef.
Germany	600	500	Vienna	48 12 40 N.	16 22 30 E.	1 5 30 bef.
Bohemia	300	250	Prague	50 4 30 N.	14 45 0 E	0 59 0 bef.
Holland	150	100	Amſterdam	52 22 45 N.	4 45 30 E.	0 19 2 bef.
Flanders	200	200	Bruſſels	50 51 0 N.	4 21 45 E.	0 17 27 bef.
France	600	500	Paris	48 50 14 N.	2 20 0 E.	0 9 20 bef.
Spain	700	500	Madrid	40 25 0 N.	3 25 45 W.	0 13 43 aft.
Portugal	300	100	Liſbon	38 42 25 N.	9 9 59 W.	0 36 40 aft.
Switſerland	260	190	Bern	40 0 0 N.	7 40 0 E.	0 28 0 bef.
Italy	750	400	Rome	41 53 54 N.	12 29 15 E.	0 49 50 bef.
Hungary	300	200	Buda	47 20 0 N.	19 22 0 E.	1 17 0 bef.
European Turkey	1400	730	Conſtantinople	41 0 24 N.	28 53 49 E.	1 55 35 bef.

SECT.

Engraved for Walker's Geography &c.

SECTION XXII.

British Isles.

The British Isles lie on the west of the continent of Europe.

192. *Inhabitants.*] The people may be considered under two different descriptions. First, the Aborigines, or the descendants of the first possessors of the isles, as the Welch, Scotch, Highlanders, Irish, and Manks, all speaking dialects of the Celtic language. Second, that mixed race, the English, descended from every emigrant, robber, and adventurer that invaded the land, whether Roman, Saxon, Dane, or Norman. This medley of languages, which forms the major part of the people, is at the head of affairs in national proceedings, takes the lead in sciences and the arts, and whose manners are considered as the national character, is daily increasing by the former mixing with them.

Those who have travelled but a little, may have had frequent opportunities of observing what strange and unreasonable prejudices people sometimes entertain against those of another nation or district. These must have arisen from the relations of wonder-stricken travellers; and if such accounts were implicitly to be relied on, there is, perhaps, hardly a nation in Europe but their manners might be resolved into something barbarous or cruel. Each nation generally praises itself, and finds out something amiss in the manners of others. Thus the English say, We are brave, we are generous, we are charitable, we are free.

It is a delicate thing to draw national characters; it requires a mind divested of prejudices, and fraught with information which it would take ages to acquire. The English, however, from the humidity of their atmosphere, and the great use they make of animal food, are, perhaps, constitutionally, more phlegmatic, or less sprightly, than those whose aliment is lighter, and who breathe a drier air; on the other hand, they are said to be more thoughtful and patient of fatigue, and consequently better fitted for arduous undertakings and tedious researches; but when we consider what other cultivated nations have done in severe sciences, and what the English have produced in poetical composition, we may be induced to blend them together in description.

The help afforded by the English to the sick and poor in their hospitals, buildings equal to palaces, and munificently supported by voluntary contributions, is happily not singular; other nations have infirmaries; but the parochial provisions made by law for the maintenance of the poor in South Britain, appears an exemplarily charitable institution. Well would it be, if it were always supported in a Chri-

stian-

ſtian-like manner, if it were generally diffuſed all over the iſles, and indeed all over the world; and their humane ſocieties, numerous diſpenſaries, and charity-ſchools do honour to the preſent age.

Liberty, when properly enjoyed, is one of the moſt invaluable of human rights, and this the Engliſhman has boaſted to be his peculiar privilege. After long and bloody ſtruggles between the king and barons of England, in the days of king John, they obliged him to ſign the great deed, ſo well known by the name of Magna Charta. This charter, by various ſubſequent acts and explanations, became applicable to the other Engliſh ſubjects, as well as to the barons, knights, and burgeſſes; and, before the reign of queen Elizabeth, the diſtinction of villain and freeman was totally aboliſhed. It has now become a maxim in the conſtitution, that the air of theſe iſlands is too pure for a ſlave to breathe. Two conſiderations, however, obviouſly offer to repreſs the Engliſhman's boaſt.

Firſt, Unleſs he be a man of certain property, whatever may be his capacity or integrity, he is unqualified for the legiſlature, and almoſt every other ſpecies of magiſtracy; and, as if his perſonal privileges, or the rights of his family, were leſs dear to him than the ſecurity of property, he has not even a voice in chuſing a repreſentative, unleſs, indeed, he happens to be a freeman of ſome particular corporation; he cannot even take his gun into the fields to help himſelf to a diſh of the fowls of the air, which own no maſter's crib; and this Gothic feature of the conſtitution ſeems, by recent acts of parliament, to be more ſtrongly marked than before. His religious profeſſion alſo affects his privileges as a citizen.

Second, The portion of liberty which the Engliſhman enjoys is not extended to the ſettlements abroad;—there ſlavery is maintained and encouraged by law; moreover, impreſſing of ſeamen is warranted at home; and, by ballot, he may be taken from his family, and ſubjected to all the ſeverities of military ſervice, and to military diſcipline alſo, or to martial law; by order of his maſters, or officers, he may be tied up and whipt, or he may be put to death without any trial by his peers. Such is the condition of the ſelf-applauding Engliſhmen, the iſlanders, cut off from, and deſpiſing the other nations of the earth; deſpiſing and deriding even one another for being born on different ſides of a river, or on oppoſite coaſts of a channel.

194. *Engliſh Conſtitution.*] By the conſtitution of theſe realms, the king is at the head of all national affairs; there can be nothing done without him. He is the centre of union to the whole legiſlative body; and the executive power, whether eccleſiaſtic, civil, or military, is entirely veſted in him. He is alſo the fountain of honour.

In entering into the detail of the Engliſh conſtitution, we may prefer the deſcription of it which is applicable to Ireland, rather than of that which is eſtabliſhed in Great Britain. In that iſland the laws are the ſame throughout the whole realm, and there is only one church of political eſtabliſhment. The national eccleſiaſtical eſtabliſhments in North and South Britain are different; and the civil law is not the ſame in theſe two different parts of the iſland.

Ireland

Ireland is an independent kingdom, and is governed by it's legiſlative and executive powers.

The legiſlative power is lodged in three different branches, which muſt all concur in every act of legiſlation: theſe branches are,

I. The king.

II. The lords of parliament, (for there are peers who are not lords of parliament, as Roman Catholics and minors, who, as ſuch, have no ſeat in the houſe of lords; and there are lords of parliament who are not peers, as the archbiſhops and biſhops.)

III. The commons, or the repreſentatives of the people, elected and delegated by them.

Each of theſe branches has certain rights; thoſe of the king are called prerogatives, and thoſe of the lords and commons are ſtyled privileges.

The prerogatives of the king (as a branch of the Legiſlature) are theſe,

1. The king alone has the power of convoking the parliament, and fixing the time of it's place and meeting, which is done by writs iſſued out of the high court of chancery, at leaſt forty days before it is to ſit.

2. The power to prorogue the parliament.

3. The power to diſſolve the parliament.

4. The power to aſſent to, or diſſent from, any bill paſſed by the lords and commons, but he cannot alter it.

5. The power to originate a bill; but that can be only an act of grace or pardon, which is ſent down to the lords, who can give it but one reading, and muſt either agree to it in the form ſent down, without any alteration, or reject it; and ſuch act is in the ſame predicament in the houſe of commons.

6. The power of ſuing a lord of parliament, or a member of the houſe of commons for his debt during the ſitting of parliament—but he cannot arreſt the perſon.

The lords have the privilege of voting by proxy, if they are abſent; and the privilege of entering on the journals of the houſe of lords a proteſt againſt any vote or bill paſſed therein.

In coming to or going from parliament, if a lord paſſes through any of the king's foreſts, he has the privilege of killing one or two of the king's deer.

They are free from all arreſts for debts, as being the king's heriditary counſellors. A peer therefore cannot be outlawed in any civil action, and no attachment lies againſt his perſon; but execution may be taken on his lands and goods—they are free from all attendance at court leets and ſheriff's turns, or from attending the ſervice of the *poſſe comitatus*.

In criminal caſes they are tried only by their peers, who give in their verdict, not upon oath, as other juries, but only upon their honour.

To ſecure the honour, and prevent the ſpreading of any ſcandal upon peers by reports, there is an expreſs law, called *ſcandalum magnatum*; by which any man convicted of that crime (though even the report

report ſhould be true) is condemned to an arbitrary fine, and to remain in priſon till the ſame be paid.

The privileges of the Commons, or repreſentatives of the people, are,

1. The freedom of ſpeech in their houſe; for no commoner can be queſtioned out of the Houſe for any thing he may ſay in the houſe of commons.

2. The privilege of being free from arreſts, in their perſons, not only during the ſitting of parliament, but for forty days after each prorogation, and forty days before the next appointed meeting.—But any member of parliament, who is a trader, may, notwithſtanding his privilege, be ſerved with legal proceſs for any juſt debt (to the amount of 1001. and unleſs he make ſatisfaction within two months, it is deemed an act of bankruptcy, and a commiſſion of bankruptcy may be iſſued.

3. Acceſs to the king; for every commoner can aſk and obtain a private audience of the king in his cloſet, on any important buſineſs.

4. The franking of letters. (The laſt two belong to the lords alſo.)

This branch of the legiſlature had it's beginning in the diſputes of the barons and kings of England for power. It was in the reign of Henry III. ſon of king John, the commons were firſt aſſembled in parliament; their ſpecific powers at that time were hardly aſcertained, but ſucceeding kings thought it well to court the affections of the people, and countenance the commons; and this moſt effectually repreſſed the power of the barons, who had hitherto inſulted the ſovereigns, and harraſſed the country with perpetual wars.

The privileges of the parliament, or whole legiſlative body united, are theſe,

1. The power of making, confirming, enlarging, reſtraining, abrogating, repealing, reviving, and expounding of laws, concerning matters of all poſſible denominations, eccleſiaſtical or temporal, civil, military, maritime, or criminal.

2. The power of regulating, or new modelling the ſucceſſion to the crown, as was done in the reigns of Henry VIII. William III. and queen Anne.

3. The power of altering the eſtabliſhed religion of the land, as under Henry VIII. Edward VI. Mary I. and Elizabeth.

4. The power of changing the conſtitution of parliaments themſelves—as in the ſeveral acts for triennial and ſeptennial elections in England, and the octennial act in Ireland. In ſhort, the power of parliament is abſolute, and no authority is legal which is not derived from it.

All Bills, affecting the rights of the peerage, are to originate in the houſe of lords, and are not alterable by the commons.—All bills that do not tax, or raiſe money on the ſubject, may originate in the houſe of lords.

The houſe of lords is the higheſt court of judicature, to which appeals may be made from all other courts; and the houſe of commons is the grand inqueſt of the nation.—Alſo each houſe is the guardian of it's own privileges, and can puniſh every breach of them, done either by it's own members or any other perſon.

The

The king of Ireland is alſo king of Great Britain and Corſica, arch treaſurer and elector of the Roman empire, by the title of Elector of Hanover, Prince of Zelle, Callenburg, and Grubenhagen, Duke of Brunſwick Lunenburg, Count of Harburg, Diepholtz, Hoy, Danneburg, and Catzellenborghen, and Duke of Saxe Lawenburg.

In ſome of theſe places his power is more abſolute than in others. In Corſica it ſeems to be the moſt limited; and in Hanover the leaſt ſo.

To aſſiſt the king in the exerciſe of his conſtitutional powers, both legiſlative and executive, he has a council, called the Privy Council. The members of it are made ſuch by the king's nomination, without patent or grant; on taking the oath, they immediately become privy counſellors during the life of the king, but ſubject to removal at his diſcretion. They take the oath for the ſecurity of the conſtitution, and teſt for the ſecurity of the church. The buſineſs of a privy counſellor may be known from the oath he takes, which is in theſe words:

'I will adviſe the king to the beſt of my cunning and diſcretion. I will adviſe for the king's honour, and good of the public, without partiality, through affection, love, meed, doubt, or dread. I will keep the king's counſel ſtrict. I will avoid corruption. I will help and ſtrengthen the execution of what ſhall be there reſolved, and withſtand all perſons who would attempt the contrary; and I will in general obſerve, keep, and do all that a good and true counſellor ought to do to his ſovereign lord.'

It is felony in any of the king's ſervants or houſehold to conſpire to take away the life of a privy counſellor, even though nothing ſhould be done upon it; and alſo for any perſon to unlawfully attempt to kill, or to unlawfully aſſault and ſtrike or wound any privy counſellor in the execution of his office; and the law is, that, on being convicted, they ſhall ſuffer death.

The privy council hath a power of certifying, to the king, all ſuch acts as have paſſed the two houſes of parliament, in order for the royal aſſent or diſſent—Of enquiring into all treſpaſſes and crimes againſt the government—Of iſſuing proclamations for the execution of all acts of conſtitutional regal authority—to lay on embargoes, grant money for ſupport of public (or private) credit, to commit delinquents againſt government, in order for legal trial—alſo to hear and determine on all cauſes on appeal to the king in his council. For this purpoſe they hear counſel, both on the ſide of the crown and the party, for which there is allowed, for extra attendance on the council, to the attorney general, the prime ſerjeant, and the ſolicitor general, an annual ſum of 176l. 11s. and 11½d. each.

In all debates in the privy council, the loweſt counſellor delivers his opinion firſt, and they then proceed upwards to the king (or the lord lieutenant, his ſubſtitute) who then declares his judgment, which terminates the matter debated.

The executive power of government is exerciſed by the king, and thoſe to whom he delegates any part of his power, which is either eccleſiaſtical, civil or military.

The prerogatives of the king, as the executive power, are theſe,

I. As

I. As head of the politically eſtabliſhed church, the king has the prerogative of convening, proroguing, reſtraining, regulating, and diſſolving all eccleſiaſtical ſynods, or convocations.

Of nomination to all vacant archbiſhoprics, biſhoprics, and certain other eccleſiaſtical preferments, and

Of being the laſt reſort in all eccleſiaſtical cauſes: for an appeal lies ultimately to the king, in chancery, from the ſentence of every eccleſiaſtical judge.

II. As the fountain and diſtributer of law, and general conſervator of the order of the kingdom, the king has the prerogative of

1. Erecting courts of law.

2. Of nominating judges (but he cannot remove them unleſs on the addreſs of both houſes of parliament.)

3. Of being the general proſecutor, (by his attorney general) of all public offences and breaches of the peace, as is ſo laid in every indictment.

4. Of iſſuing proclamations, for the execution of any known law, or of being the general executioner by his ſheriffs, juſtices, conſtables, &c.

5. Of being the fountain of honour, of rewarding his partizans with titles and privileges, hereditary and perſonal.

6. Of eſtabliſhing public marts, or places of buying and ſelling and fairs, for the ſame purpoſe.

7. The regulation of weights and meaſures.

8. The coining and aſcertaining the value of money

9. The receipt of the public revenue, and the expenditure thereof, according to acts of parliament.

III. As generaliſſimo, and high admiral of the realm, the king has the prerogative of appointing to all military and marine offices and juriſdictions.

He has the prerogative of ſending and receiving ambaſſadors—Making treaties—Declaring war—Granting letters of repriſal and marque—Granting ſafe conduct, and opening and eſtabliſhing ports and havens.

Hence it appears that the executive power is divided into the eccleſiaſtical department, the civil department, and the military department.

I. The eccleſiaſtic department is divided into provinces, or circuits of an archbiſhop's juriſdiction; dioceſes, or diviſions of a province into ſees of ſuffragan biſhops, each of which contains one or more archdeaconries, which are again divided into pariſhes.

To the archbiſhops, biſhop, and archdeacons belong ſundry courts, called general ſpiritual courts—All other courts are held by the king's authority, and writs run in his name; but eccleſiaſtical courts are not deemed the king's courts, for the writs iſſue in the biſhop's name—And where, as in temporal courts, there are ſeveral judges, each biſhop is ſole judge in his own court; and he may depute his authority to another, and appoint a chancellor, commiſſary, regiſter, &c. which none of the ſecular judges can do. In trials of baſtardy or hereſy the certificate is ſufficient; and if a clergyman kill his biſhop or ordinary, it is held as paricide, and is petty treaſon.

The

The privileges of the clergy in general are these:

A clergyman cannot be compelled to serve on a jury, nor to appear at courts leet, nor be chosen to a temporal office; during his attendance on divine service, he is privileged from arrests in civil suits. In cases of felony he may have the benefit of his clergy, without being branded in the hand, and may likewise have it more than once.

The ecclesiastical courts take cognizance of, and give sentence on, ordinations, institutions of clerks to benefices, celebration of divine service, and all that relate to churches, matrimonial rites, divorces, bastardy, probate, and administration of wills, simony, blasphemy, adulteries, incests, fornications, and defamation.

The several courts now in Ireland are the metropolitan court of Armagh, the consistory court of Dublin, the high court of delegates and the prerogative court. Besides these every bishop hath his own court, over which his vicar-general presides.

II. The civil department comprizes two grand branches, law and revenue.

The law professes to protect public and private rights, and to punish public and private wrongs.

For this purpose it hath sundry courts, officers, persons, and offices.

Law also comprizes equity; and the courts are either general, that comprehend the whole kingdom; or particular, that affect particular persons and places.

Except in courts martial and ecclesiastic, and those of chancery, juries are accounted supreme judges in all courts and in all causes, in which the life, property, or reputation, of is man are concerned. All criminal causes must first be tried by a grand jury, which commonly consists of twenty-four men of greater wealth than that which those of the petit jury are required to be possessed of. If they find him innocent, he is discharged; if otherwise, they only find an indictment, on which he is tried, and finally acquitted or convicted by the verdict of the petit jury. When the evidence is summed up, and the charge given by the judge to the jury, if they be not unanimous, they are to be shut up together till they become of one mind. The consequences of this barbarous law may be disorders and death, for they are deprived of meat, drink, fire, and candle, as well as of the company or speech of all other people.

The courts of justice observe nothing but the strict letter of the law.

The court of chancery is accounted a court of mercy, in which causes are tried, not according to the strictness of the law, but according to the rules of equity.

The chancery has two courts in one. The equitable part being instituted for the relief of the subject, against cheats, breaches of trust, and unfortunate accidents; to temper the rigour of the law, and to rescue men from oppression. In the other, all patents, various commissions, deeds between parties, touching lands and estates, treaties with foreign princes, &c. are sealed and enrolled. Out of it issue writs to convene the parliament. In one part the proceedings were formerly in Latin, when the court proceeded by the known laws and customs of the land, for which part there are officers called curfi-

tors, but now all is done in Engliſh. And the equity proceedings go by Engliſh bill, for which there are ſix clerks.

The form of pleading in this court is by petition, bill, examination of witneſſes, and ſubpœna, by which the defendant is ſummoned to appear and anſwer the complainant's bill; upon neglecting thereof there iſſues an attachment to compel him. This not being obeyed, there iſſues an attachment with a proclamation: and if the defendant ſtill continue contumacious, the court will award againſt him a proclamation of rebellion, upon which he is ſent priſoner.

In this court the lord high chancellor is the ſole judge. He is the chief magiſtrate in the kingdom. He is appointed by patent, and and holds his office *durante bene placito*, i. e. during the king's pleaſure. When he appears in public, the mace and great ſeal are carried conſtantly with him: and he is ſaid, from his equity, to be the keeper of the king's conſcience: when cauſes are removed into chancery, he overrules, by his *ipſe dixit*, the deciſions of the juries in the other courts.

Other courts ſit only in term time, out of which they have no power to act as courts of juſtice, unleſs by ſpecial commiſſion; but the court of chancery is always open, ſo that if a man is wrongfully impriſoned, during a vacation, the lord chancellor may grant his writ of Habeas Corpus, and do him juſtice according to law.

Although the lord chancellor is the ſole judge, yet he has five aſſiſtants, called maſters of the rolls, and maſters in chancery, who have ſalaries, fees, and robe-money out of the exchequer. Theſe were all anciently doctors of the civil law, and their buſineſs was originally to inform the lord chancellor of the equitable part of the civil law.

The firſt of theſe officers is called maſter of the rolls, as having the cuſtody of all charters, patents, commiſſions, deeds, and recognizances, which being made into rolls of parchment, gave occaſion for that name. Subordinate to him are the *cuſtodes rotulorum*, or keepers of the rolls of the ſeveral counties, a ſecretary, regiſter, and uſher; and he has the gift of the ſix-clerks office, the examiners office, the clerk of the petty bag, and the clerk of the rolls, or keeper of the records in the Birmingham tower, in Dublin caſtle.

The maſters in chancery take depoſitions; and to them is referred the examination of accounts depending in this court, of which they make their report in writing. In term time one or more of them ſit in the court with the lord chancellor, at ſome diſtance from him; and out of term alſo, when he hears cauſes at his own houſe.

The above officers, with ſome others, are commiſſioned to hear and determine cauſes in the abſence or at the death of the lord chancellor, that the courſe of juſtice may not be interrupted.

Beſides the ordinary maſters in chancery, there are maſters extraordinary, and commiſſioners of affidavits, to do their buſineſs in the country parts of the kingdom.

The officers next in degree to the maſters in chancery are the ſix clerks in chancery, whoſe duty is to enroll all patents, commiſſions, licenſes, pardons, and other inſtruments that paſs the great ſeal, and have clerks under them.

The other officers of this court are,

The clerk of the crown, who by himſelf or deputy is always to attend the lord chancellor, for ſpecial matters of ſtate. He makes out all writs for the election of members of parliament, commiſſions for diſtributing juſtice, general and ſpecial pardons.

The prothonotary, or proto-notary, i. e. the firſt notary. [This office ſubſiſts in Great Britain, and expedites commiſſions for embaſſies. But as no embaſſies are ſent from Ireland, the office is dormant.]

The regiſter, whoſe office is generally executed by deputies, giving conſtant attendance in court, and taking ſhort notes, called minutes, which they afterwards draw out at length into orders, containing the opinion of the court in the matter debated. It is their duty alſo to engroſs, file, and keep the decrees, orders, and injunctions iſſuing out of this court.

The examiners who examine witneſſes, according to the interrogatories delivered to them to examine the parties thereupon; and put their anſwers and depoſitions into writing.

A clerk, and a comptroller of the hanaper, vulgarly called the hamper. The clerk's office is to receive all money due to the king for the ſeals of charters, patents, commiſſions, and writs. He attends daily in term time, and at all times of ſealing, with leather bags, in which are put all ſealed patents, charters, &c. and thoſe bags are delivered to the comptroller of the hanaper, who alſo receives all returns of writs of members of parliament when they are elected. In Ireland theſe two offices are united, and joined to the clerk of the crown.

Clerks of the petty bag, who make out all patents for cuſtomers, &c. all commiſſions for aſſeſſing of taxes, and writs for the nominating of collectors.

A maſter of the ſubpœna office, who makes out all ſubpœnas.

A maſter of the affidavit office, who files all affidavits ſworn before a maſter in chancery.

A clerk of the patents, who prepares, engroſſes, and exemplifies all patents or grants from the king, for any new invention or diſcovery.

A curſitor, who makes out original writs.

A clerk of the alienation office, where fines are ſet, and monies received upon writs of covenant for alienating any eſtate in the kingdom, as due to the king for his licenſe or conſent: and

Commiſſioners of bankruptcy, who are twenty-five in number, and have officers under them.

The court of king's bench, (next to the houſe of lords in parliament) is the higheſt court at common law. The king anciently ſitting in perſon in this court, and now virtually by his judges, it is called the king's bench. Here the pleas, that are between the king and the ſubject, are tried and judged. All treaſons, felonies, breach of the peace, and miſgovernment are commonly brought before this court; as are alſo all errors of the judges and magiſtrates in Ireland, in their judgment and proceedings, not only in the pleas of the crown, but in all other pleas (the exchequer excepted). In this court all lawyers who have been called to the bar, are allowed to plead and practiſe. To this court belong four judges, who hold their offices by writ, and

not by patent, *quamdiu ſe bene geſſerint*, i. e. as long as they behave themſelves well; ſo that they are not to be diſplaced until ſome miſconduct has been fully proved; and this renders their judgment reſponſible to the law only, and not to the crown.

The court of common pleas, is ſo called, becauſe the pleas uſually here debated are between ſubject and ſubject, and that according to the ſtrictneſs of law. Here all civil cauſes, real, and perſonal, are uſually tried, and real actions are pleadable in no other court. Nor are fines levied or recoveries ſuffered but only in this court, at the court itſelf, at the judges chamber, at the aſſizes, or by ſpecial commiſſion out of chancery.

This court has alſo four judges, each holding his place by patent, *quam diu bene ſe geſſerint*.

There are two courts held in the exchequer; the court of equity held in the exchequer chamber, and the court of law, before the barons.

The exchequer, beſides being a court of both law and equity, is alſo the heart of the ſtate, receiving and iſſuing the whole of the revenue, which is in conſtant circulation through it, and therefore this part of the exchequer is referred to the ſecond grand branch of the civil department, named the revenue.

Beſides theſe there are alſo circuit courts twice in every year, (and ſometimes oftener, by particular commiſſions. Law is, as it were, brought home to every man's door, in the ſeveral counties of the kingdom, the twelve judges going for that purpoſe, by commiſſion from the crown of oyer and terminer (or to hear and determine) all treaſons, murders, felonies, and miſdemeanors—and of gaol delivery, directed to the juſtices of aſſize, to try every priſoner for the offence, for which he or ſhe ſtands committed, and to deliver (or clear) the gaol.

The judges of theſe circuit courts are ſeldom the ſame for two circuits following, as the judges chuſe the circuits amongſt themſelves.

The other particular courts are thoſe of ſheriffs, mayors, and aldermen, court leets and court barons.

For the ſupport of the civil and military eſtabliſhments, there is a a certain revenue paid to the crown, in conſequence of acts which originate in the houſe of commons, as being the grants of the people, and certain fines and forfeitures, which form a caſual revenue.

This revenue ariſes from cuſtoms and exciſe, ſtamp duties, poſt duties, licenſes, fines, firſt fruits, tenths, and forfeitures.

All the money ariſing from theſe is paid into the treaſury of the exchequer, and iſſued from thence, an audited account of which is annually ſubmitted to the ſcrutiny of parliament.

III. The military department includes the navy, as well as the army.

The court of admiralty decides all cauſes that ariſe at ſea out of the juriſdiction of a county. The lord high admiral, or commiſſion for that office, is the ſupreme judge of it, and acts by deputy.

The court martial is for puniſhing deſertion, mutiny, and other offences in the army and navy. In this court, the delinquent has not the benefit of a jury, and in time of war, the king has a moſt abſolute and arbitrary power in it.

As

As thoſe who are in the army or navy, have loſt their moſt valuable civil privileges, and fallen under a deſpotic government; ſo they are liable to be to be aſſociated with thoſe who have forfeited their rights as citizens. Government itſelf does not conſider this line of life as reputable, for criminals alſo, in puniſhment for their offences, as well as honeſt unoffending men, are forced into the king's ſervice.

The ſheriffs are annually appointed by the crown. It is the buſineſs of the ſheriff to execute the king's mandates, and all writs directed to him out of the king's courts of judicature; to ſuperintend elections; to impannel juries; to bring cauſes and malefactors to trial; to ſee all ſentences, as well civil as criminal, put in execution. He likewiſe collects public fines, diſtreſſes, and amercements into the exchequer, and makes payments out. As his office is judicial, he alſo keeps a court for the purpoſe of hearing and determining all civil cauſes in the county under forty ſhillings, but which, however, is no court of record. The bailiffs are his officers, and he is himſelf the king's bailiff.

The coroner's office reſembles the ſheriff's, and when any exception can be taken to the latter for partiality, he becomes the ſheriff's ſubſtitute; for then the proceſs muſt be awarded to him, inſtead of the ſheriff, for executing the king's writs. It is his peculiar buſineſs to make inqueſt, by means of a jury of neighbours, how, and by whom any perſon came to a violent death, and to enter it on record as a plea of the crown.

Juſtices of the peace are alſo appointed in every county, by the king's ſpecial commiſſion, the principal of whom is the cuſtos rotulorum, or keeper of the records of the county. To them is entruſted the power of putting in execution great part of the ſtatute laws relative to the highways, felonies, &c. and of examining, and committing to priſon, ſuch perſons as are found guilty of breaking or diſturbing the peace, and diſquieting the king's ſubjects.

Conſtables are the next officers appointed for keeping the peace. They can impriſon offenders, till they are brought before a juſtice; and it is their duty to execute, in their reſpective diſtricts, every warrant directed to them from any magiſtrate, or a bench of juſtices.

The civil government in cities is ſomething different from that of the counties, being directed according to their reſpective charters granted by different princes; with this limitation, that civil cauſes may be removed from their courts to the higher ones; and all capital offences are committed to the judges at the aſſizes. Some cities are counties of themſelves, and chuſe their own ſheriffs. The mayor, aldermen, and burgeſſes collectively make the corporation of the city, and in their court of judicature, the mayor preſides as judge.

Incorporated boroughs are governed almoſt after a ſimilar manner; ſome of them by a mayor, and others by two bailiffs only; all which, during their mayoralty or magiſtracy are juſtices of the peace within their reſpective liberties.

For the better government of villages, the lords of the ſoil or manor have generally a power to hold courts, called leet and baron, where their tenants attend, in order to obtain juſtice. The buſineſs of courts leet is chiefly to prevent and puniſh nuiſances; and at courts

baron, the conveyances and alienations of the copyhold tenants are enrolled, and themſelves admitted to their eſtates, on a deſcent or purchaſe.

Cauſes are uſually brought into the eccleſiaſtical courts either by citation, or by the preſentment of their church-wardens. The parties are called the promovent and impugnant; and when the latter had appeared to the citation, the former gives in his libel or charge, and proſecutes it in a plenary, or in a ſummary way. The impugnant then gives in his anſwer, and witneſſes are examined, and iſſue joined, and the cauſe tried, and a decree made.

In civil courts, when the plaintiff commences an action, if the jury find a bill of indictment, the court orders the ſheriff to take the body of the defendant, or bail for his appearance. The plaintiff then declares upon his action, and the defendant makes his plea; after which the bill may be amended, or there may be a reply to the plea, and a rejoinder to that reply, &c. till the cauſe is brought to an iſſue, in fact to be tried by a jury; or in law, to be tried by a conſultation of judges, when judgment is given, and if not laid aſide, is enrolled, and execution iſſued, &c.

In chancery, the ſuit commences by bill, and proceedings in other courts are ſtopped by an injunction; then a ſubpœna iſſues to bring in the defendant, and he muſt appear by his ſix-clerk to give in his anſwer. The plaintiff files his exceptions to it, and it is referred to a maſter of chancery, to judge if it be a ſufficient anſwer. The plaintiff replies, and the defendant rejoins, and witneſſes are heard and examined, and the cauſe ſet down for a hearing and heard, and a decree is made, and a writ of execution is iſſued.

The government of the kirk of Scotland is in the hands of miniſters and elders; they have deacons alſo, whoſe buſineſs is pretty much the ſame as that of wardens in the church of England. They have alſo their teinds or tithes, and alſo judicial courts, as in epiſcopal eſtabliſhments. The courts eſtabliſhed by law, are the four following, viz. kirk ſeſſions, preſbyteries, provincial ſynods, and above all, a national or general aſſembly. This eſtabliſhment, at various periods, proved ſo tyrannical over the people, having the power of the greater and leſs excommunication, which were attended by a forfeiture of eſtate, and ſometimes of life, that the kirk ſeſſions, and other bodies have been abridged of many of their dangerous powers. The eccleſiaſtical order and government in the kirk of Scotland, however, ſeems far more impartial than that of epiſcopacy. None of their livings exceed two hundred pounds a year, few fall ſhort of ſixty, and none are leſs than fifty.

They are called preſbyterians, from their maintaining that the government of the church, appointed in the New Teſtament, was by preſbyteries, that is, ſay they, by miniſters and ruling elders, aſſociated for it's government and diſcipline; and accordingly none of their eccleſiaſtics, conſidered as an individual, has an authoritative juriſdiction over another. Juriſdiction is competent for them only when they act in a collective body, or as a court of judicature; and then there

there is a ſubordination of one court to another, or appeals from the inferior to the ſuperior courts.

195. *Religious Profeſſions.*] Beſides the churches of England and Scotland, which have a political eſtabliſhment, and whoſe powers are interwoven with thoſe of the civil conſtitution, there are numerous other ſocities which exiſt in their religious capacity independent of the ſtate; to deſcribe all theſe, would be to give the hiſtory of almoſt every modern profeſſion of the Chriſtian religion. It would be difficult even to tell the names of theſe various ſocieties. They are called by the general names of Papiſts or Roman Catholics, Independents of various kinds, Seceders, who are burghers or anti-burghers, Anabaptiſts or Baptiſts, Methodiſts, Moravians or the Brethrens Unity, and Quakers or Friends. There are other more minute diſtinctions made among this multitude of opinions, under names which import the different leaders which have been followed, or the opinions embraced, as thoſe of Lutherans, Calviniſts, Arminians, Sandymonians, &c. Unitarians, Trinitarians, Predeſtinarians, Antinomians, Arians, Socinians, &c.

196. *Revenue.*] The clear net produce of the ſeveral branches of the revenue of Great Britain, after payment of all charges of collecting and management, amounts annually to upwards of eight millions; beſides two millions and a half, raiſed annually at an average by the land and malt tax. Such immenſe ſums, it might naturally be ſuppoſed, would be equal to any national exigence; but they are almoſt entirely applied to the diſcharge of the intereſt of the money raiſed on government ſecurities; or, in other words, the national debt. This debt, which has been continually accumulating ſince the revolution, amounts at preſent to upwards of four hundred millions ſterling.

The national debt derived it's origin from a mode of finance adopted ſoon after the acceſſion of William III. From ſeveral expenſive and political engagements about that era, the expences of government were increaſed to an unuſual degree, inſomuch that it was deemed dangerous to raiſe all the expences of any one year by taxes, to be levied within that ſpace of time, leſt the unaccuſtomed weight of them ſhould create murmurs among the people. It was therefore projected to anticipate the revenues of poſterity by borrowing immenſe ſums for the current ſervice of the ſtate, and to lay no more taxes on the ſubject, than would ſuffice to pay the annual intereſt of the ſums ſo borrowed; thus converting the principal into a new ſpecies of property, transferable from one perſon to another at any time, and in any quantity. Such was the foundation of what is now called the national debt; for a few long annuities, created in the reign of Charles II. by no means deſerve that appellation.

The clear net produce of the ſeveral branches of the revenue of Ireland, after payment of all charges of collecting and management, does now amount annually to one million. The national debt is rather more than two millions. In the reign of Charles II. the revenues here being all made perpetual, the parliament was diſſolved; and during the ſpace of twenty-ſix years, no parliament ſat in Ireland until the year 1692, when the increaſe of the civil and military eſtabliſh-

ment, and other charges of government, having conſiderably exceeded the produce of the hereditary revenue, the crown found it neceſſary to call upon parliament for further ſupplies, which being granted on articles ſubject at the time to hereditary duties, were called additional duties, and their produce was given for one, two, or three years only, and renewed every ſeſſion, without further extenſion, until after the year 1715, when the commons of Ireland paſſed a vote of credit for the ſum of 50,000l. to enable government to put the kingdom into a poſture of defence, againſt the invaſion it was then threatened with. This vote of credit is conſidered as the origin of the national debt in this kingdom, and it was to be raiſed by loan, bearing an annual intereſt; certain duties were afterwards granted to defray that intereſt, and ſink the principal; theſe duties have increaſed or decreaſed from time to time, as the debt has riſen or fallen, and are diſtinguiſhed in the public accounts under the title of loan duties.

197. *Territories.*] Beſides their own native iſles, the Engliſh lay claim to very extenſive continental territories and iſlands in Aſia and America, they have ſettlements alſo on the coaſts of Africa, and hold Gibraltar from the kingdom of Spain, and ſome iſles on the French coaſt; and they have extended their commerce to almoſt every part of the earth.

In the ſettlements abroad, the people loſe the privileges they inherit at home, they are under the government of the Britiſh legiſlature, and have no repreſentatives therein; this alſo is the lot of the Iſle of Man; and it was but lately, that the people of Ireland obtained the privileges and freedom of citizens, according to the Engliſh conſtitution or Magna Charta: till near the cloſe of the laſt war, the acts of the Britiſh parliament, declared that the kingdom of Ireland ought to be ſubordinate to, and dependent on, the imperial crown of Great Britain, as being inſeparably united thereto; thoſe vindictive laws, however, are now aboliſhed, and the people of Ireland enjoy the ſame privileges as the inhabitants of Great Britain.

The following comparative view of European ſhipping, uncertain as it muſt neceſſarily be, may give us ſome idea of their foreign trade, in compariſon with that of other European nations. Suppoſe the ſhipping of Europe to be divided into twenty parts, then Great Britain is computed to have 6; United Provinces, 5; Denmark, Sweden, and Ruſſia, 2; German Empire and Auſtrian Netherlands, 1; France, 3; Spain and Portugal, 2; and Italy, and other parts of Europe, 1.

After this general ſketch of the Britiſh iſles, we may now conſider them under their diviſions.

Great-Britain, the largeſt, moſt populous, rich, and fertile iſland in Europe, is ſuppoſed to have had it's name from the word *Brit*, ſignifying painted or ſtained; becauſe the ancient inhabitants painted their bodies, to give them a more martial appearance. It includes England, Scotland, Wales, and Berwick upon Tweed.

SECTION,

Plate X

Engraved for Walker's Geography by [illegible]

SECTION XXIII.

England and Wales.

England lies between fifty and fifty-six degrees north latitude, and between two degrees East, and six degrees twenty minutes West longitude. It is bounded on the North by Scotland, on the East by the German Ocean; on the South by the Engliſh Channel, and on the Weſt by the Iriſh Sea.

198. *Diviſions.*] England has been differently divided at different periods of time. When the Romans were maſters of this country they divided it into

1. Britannia Prima, including the ſouthern parts of the kingdom.
2. Britannia Secunda, comprehending the weſtern parts, together with Wales.
3. And Maxima Cæſarienſis, which reached from the Trent as far northward as the wall of Severus, between Newcaſtle and Carliſle, and in ſome parts as far as that of Adrian, between the Forth and the Clyde.

After the Saxons became maſters of England, they divided it into ſeven unequal parts, which they called kingdoms; each leader appropriating to himſelf thoſe parts which he had either conquered himſelf, or been the chief inſtrument in reducing. It is ſuppoſed to have received it's name from Anglen, a province of Denmark, whence theſe adventurers came.

SAXON HEPTARCHY.

Kingdoms, comprehending the Counties of	
1. KENT.	Kent.
2. SOUTH SAXONS.	Suſſex, Surry.
3. EAST ANGLES.	Norfolk, Suffolk, Cambridge, Iſle of Ely.
4. WEST SAXONS.	Cornwall, Devon, Dorſet, Somerſet, Wilts, Hants, Berks.
5. NORTHUMBERLAND.	Lancaſter, York, Durham, Cumberland, Weſtmoreland, Northumberland, and Scotland to the Frith of Edinburgh.
6. EAST SAXONS.	Eſſex, Middleſex, and part of Hertford.

7. MERCIA.

7. Mercia.	Glouceſter, Hereford, Worceſter, Warwick, Leiceſter, Rutland, Northampton, Lincoln, Huntingdon, Bedford, Buckingham, Oxford, Stafford, Derby, Salop, Nottingham, Cheſter, and the other parts of Hertford.

About the year 890, Alfred the Great, divided England into counties, which, with ſome little alteration, continue to this day; and is generally called the modern diviſion of England into counties, and the ſix circuits.

HOME CIRCUIT.

Counties.	*Chief Towns.*
Essex.	Chelmsford, Colcheſter, Harwich, Malden, Saffron Walden, Bocking, Braintree, and Stratford.
Hertford.	Hertford, St. Albans, Royſton, Ware, Hitchin, Baldock, Biſhops Stortford, Berkhempſtead, Hemſted, and Barnet.
Kent.	Maidſtone, Canterbury, Chatham, Rocheſter, Greenwich, Dover, Deal, Woolwich, Graveſend, Deptford, Feverſham, Dartford, Romney, Sandwich, Sheerneſs, Tunbridge, Margate, and Milton.
Surry.	Southwark, Kingſton, Guildford, Croydon, Epſom, Richmond, Wandſworth, Batterſea, Putney, Farnham, Godalmin, Bagſhot, Egham, and Darking.
Sussex.	Chicheſter, Lewes, Horſham, Rye, Eaſt Grinſtead, Arundel, Brighthelmſtone, Shoreham, Petworth, Midhurſt, Haſtings, Battle, and Winchelſea.

NORFOLK CIRCUIT.

Bucks.	Ayleſbury, Buckingham, High Wicombe, Great Marlow, Newport-Pagnel, and Stoney Stratford.
Bedford.	Bedford, Ampthill, Wooburn, Dunſtable, Luton, and Biggleſwade.
Huntingdon.	Huntingdon, St. Ives, Kimbolton, St. Neots, Godmancheſter, Ramſey, and Yaxley.
Cambridge.	Cambridge, Ely, Newmarket, Wiſbeach, and Royſton.

Counties.	*Chief Towns.*
SUFFOLK.	Bury, Ipſwich, Sudbury, Loweſtoffe, Woodbridge, Aldborough, Bungay, Southwold, Brandon, Haleſworth, Milden-Hall, Framlingham, Lavenham, Hadley, Stratford, Long Stratford, Eaſterbergholt, Beccles, and part of Newmarket.
NORFOLK.	Norwich, Thetford, Lynn, Yarmouth, Dereham, Fakenham, Wutton, and Worſted.

OXFORD CIRCUIT.

OXON.	Oxford, Banbury, Chipping-Norton, Henley, Burford, Witney, Tame, Woodſtock, and Dorcheſter.
BERKS.	Reading, Abingdon, Windſor, Wallingford, Newbury, Maidenhead, Hungerford, Farringdon, Wantage, and Oakingham.
GLOUCESTER.	Glouceſter, Tewkeſbury, Cirenceſter, Blackley, Durſley, Leechdale, Cambden, Newham, Stow, Tetbury, Sudbury, Wotton, Marſhfield, and part of Briſtol.
WORCESTER.	Worceſter, Eveſham, Bewdley, Droitwich, Stourbridge, Kidderminſter. Bromſgrove, Perſhore, and Tidbury.
MONMOUTH.	Monmouth, Abergavenny, Caerleon, Chepſtow, Newport, and Pontipool.
HEREFORD.	Hereford, Lempſter, Weobly, Kyniton, Roſs, Pemb, Ledbury, and Bromyard.
SALOP.	Shrewſbury, Ludlow, Bridgnorth, Biſhop-caſtle, Whitchurch, Wenlock, Wem, Newport, and Oſweſtry.
STAFFORD.	Stafford, Litchfield, Newcaſtle-under-Line, Burton, Pembridge, Wolverhampton, Stow, Rugely, Stone, and Utoxeter.

MIDLAND CIRCUIT.

WARWICK.	Warwick, Coventry, Birmingham, Stratford upon Avon, Atherton, Coleſhill, Tamworth, Nuneaton, and Aulceſter.
LEICESTER.	Leiceſter, Melton-Mowbray, Aſhby de la Zouch, Boſworth, and Harborough.
DERBY.	Derby, Cheſterfield, Wirkſworth, Aſhbourne, Balſover, Buxton, and Bakewell.
NOTTINGHAM.	Nottingham, Newark, Redford, Southwell, Mansfield, Workſop, Blithe, and Tuxford.

Counties.	*Chief Towns.*
LINCOLN.	Lincoln, Boſton, Stamford, Grantham, Grimſby, Gainſborough, Spalding, Stanton, Horncaſtle, Croyland, New Sleaford, and Louth.
RUTLAND.	Oakham, and Uppingham.
NORTHAMPTON.	Northampton, Peterborough, Brackley, Daventry, Oundle, Towceſter, Rothwell, Wellingborough, Higham Ferrers, Rockingham, Kettering, and Thrapſton.

WESTERN CIRCUIT.

HANTS.	Wincheſter, Southampton, Portſmouth, Andover, Baſingſtoke, Chriſtchurch, Peterſfield, Lymington, Ringwood, Rumſey, Arlesford; and Newport, Yarmouth, and Cowes, in the Iſle of Wight.
WILTS.	Saliſbury, Devizes, Marlborough, Malmſbury, Wilton, Warminſter, Chippingham, Cricklade, Trowbridge, Bradford, and Calne.
DORSET.	Dorcheſter, Lyme, Sherborne, Shafteſbury, Pool, Blandford, Bridport, Weymouth, Melcombe, Winburn, and Wareham.
SOMERSET	Bath, Wells, part of Briſtol, Taunton, Bridgewater, Wincanton, Ilcheſter, Watchet, Minehead, Milborn Port, Glaſtonbury, Dulverton, Wellington, Dunſter, Somerton, Yeovil, Axbridge, Chard, Bruton, Shepton-Mallet, Froome, and Croſcombe.
DEVON.	Exeter, Plymouth, Barnſtaple, Biddeford, Tiverton, Dartmouth, Taviſtock, Oakhampton, Topſham, Honiton, Aſhburton, Crediton, Torrington, Moulton, Totneſs, Axminſter, Plympton, and Ilfracomb.
CORNWALL.	Launceſton, Falmouth, Truro, Saltaſh, Bodmyn, St. Ives, Padſtow, Tregony, Fowey, Penryn, Kellington, Leſtwithiel, Leſkard, Helſton, Redruth, Penzance.

NORTHERN CIRCUIT.

YORK.	York, Leeds, Wakefield, Halifax, Rippon, Pontefract, Hull, Richmond, Scarborough, Malton, Sheffield, Doncaſter, Whitby, Northallerton, Sherbourn, Bradford, Tadcaſter, Boroughbridge, Giſborough, Heydon, Pickering, Wetherby, Beverly, Burlington, Hewden, Knareſborough, Barneſley, Skipton, Ripley, Yarum, and Settle.

DURHAM,

Counties.	*Chief Towns.*
DURHAM.	Durham, Stockton, Sunderland, South Shields, Stanhope, Barnard Caſtle, Hartlepool, Auckland, and Darlington.
NORTHUMBERLAND.	Newcaſtle upon Tyne, Berwick, Tinmouth, Morpeth, Alnwick, Hexham, North Shields, and Wooller.
LANCASTER.	Lancaſter, Manchester, Preſton, Liverpool, Warrington, Clithero, Ormſkirk, Wigan, Rochdale, Kirkham, Hornby, Poulton, Bury, Hawkſhead, and Newton.
WESTMORELAND.	Appleby, Kendal, Lonſdale, Burton, Ambleſide, Kirbyſteven, Ortan, Brough, and Milthrop.
CUMBERLAND.	Carliſle, Cockermouth, Whitehaven, Penrith, Keſwick, Brampton, Holm, Egremont, Longtown. Ravenglaſs, Wigton, Workington, Keſwick, Ireby, Allonby, Maryport, and Harrington.

Middleſex, being the ſeat of the ſupreme courts of judicature, is not comprehended in any circuit; nor is Cheſhire, as being a county palatine.

Counties.	*Chief Towns.*
MIDDLESEX.	London, Weſtminſter, Uxbridge, Brentford, Barnet, Highgate, Hampſtead, Kenſington, Staines, Enfield, Edgworth, Hackney, Hampton Court, and Chelſea.
CHESTER.	Cheſter, Namptwich, Macclesfield, Congleton, Northwich, Frodiſham, Stockport, Sandwich, Middlewich, Malpas, Knotsford, Wirleach, and Haulton.

CIRCUITS OF WALES.

NORTH EAST CIRCUIT.

Counties.	*Chief Towns.*
FLINT.	Flint, St. Aſaph, Holywell, and Caerwys.
DENBIGH.	Denbigh, Wrexham, and Ruthen.
MONTGOMERY.	Montgomery, Llanidlos, Llanvylin, Machynleth, and Welchpool.

NORTH WEST CIRCUIT.

ANGLESEY.	Beaumaris, Llanrickmead, Holyhead, and Newburgh.
CAERNARVON.	Bangor, Caernarvon, Aberconway, and Pullhilly.
MERIONETH.	Bala, Dolgelhe, and Harleigh.

SOUTH EAST CIRCUIT.

Counties.	*Chief Towns.*
RADNOR.	Radnor. Preſtein, and Knighton.
BRECON.	Brecknock, Bealt, and Hay.
GLAMORGAN.	Llandaff, Cardiff, Cowbridge, Swanſea, Neath, and Penriſe.

SOUTH WEST CIRCUIT.

PEMBROKE.	St. David's, Haverfordweſt, Pembroke, Fiſhguard, Milfordhaven, Kilganing, Newport, Tenby, and Whiſton.
CARDIGAN.	Cardigan, Aberiſtwyth, Llanbadarn-vawer, and Tregaron.
CAERMARTHEN.	Caermarthen, Kidwelly, Llandilovawr, Llanelthy, Llangharn, and Llamindovery.

In ENGLAND there are

40 counties, which ſend to parliament -	80 knights.
25 cities (Ely none, London four) - -	50 citizens.
167 boroughs, two each - - -	334 burgeſſes.
5 boroughs (Abingdon, Banbury, Bewdley, Higham Ferrers, Monmouth) one each	5 burgeſſes.
2 univerſities - - - -	4 repreſentat.
8 cinque ports (Haſtings, Dover, Sandwich, Romney, Hythe, and their three dependants, Rye, Winchelſea, and Seaford) two each - - - -	16 barons.

WALES.

12 counties - - - -	12 knights.
12 boroughs, (Pembroke two, Merioneth none) one each - - - -	12 burgeſſes.

SCOTLAND.

33 ſhires - - - -	30 knights.
67 cities and boroughs - - -	15 burgeſſes.
Total -	558

199. *Climate, Soil, and Vegetable Productions.*] The exhalations from the ſurrounding ſea, render the air humid, and the weather changeable, but prevent the extremities of heat and cold experienced on the continent, and clothe the ground with a perpetual verdure.

The ſoil in different parts is variouſly diverſified, and in ſome places is deep, in others ſhallow; but whatever be it's nature and quality, the Engliſh huſbandman well knows how to convert it to his uſe. No country

country in the world has carried agriculture to a greater degree of perfection than the Engliſh. Beſides the great variety of eſculent plants, which are produced here for the uſe of man and brute, hemp and flax, with woad and madder for dying, are cultivated in England. The counties of Kent, Surry, Eſſex, and Hampſhire produce the largeſt quantites of hops, which now make a very conſiderable article of trade. Saffron is produced chiefly in Eſſex, Suffolk, and Cambridgeſhire, and eſteemed the beſt in the world.

Soon after the Norman conqueſt, England abounded with foreſts. It was the barbarous temper of the Conqueror, to prefer his own diverſions to the peace and convenience of the inhabitants, and accordingly, many extenſive tracts of cultivated land and towns were laid waſte, to make room for foreſts, for the king and his nobles to hunt in. The number of them was ſixty-nine, but they are now reduced to a very few, the principal of which are Windſor Foreſt, New Foreſt, the Foreſt of Dean, and the Foreſt of Sherwood. Theſe large tracts of land formerly abounded with oak, beech, maple, poplar, elm, cheſnut, walnut-trees, &c. but from the little care that is taken to plant young trees, as the old ones are cut down, it has been feared that this maritime nation will be deſtitute of timber proper for ſhipbuilding.

200. *Animals.*] There are very few animals peculiar to England. The bull-dog, the maſtiff, and the cock, however, are here remarkable for their courage and fierceneſs, which they are obſerved to loſe when carried to other countries; and their horſes are the fineſt in the world both for ſpeed and ſtrength.—It would be well their improvements in the breed of theſe animals, were founded on more humane and virtuous principles. The Engliſh oxen are large and fat; the ſheep are of two kinds, one bred in the downs and upland paſtures, the other on the lowlands of Eſſex and Lincolnſhire; the fleſh of the former breed is preferred, and the fleeces of the latter. It is computed that there are no leſs than eight millions of fleeces annually ſhorn in England. The other quadrupeds are aſſes, cows, deer, hogs, hares, rabbits, foxes, ſquirrels, cats, otters, badgers, hedgehogs, moles, &c.; formerly wolves were very numerous.

The birds are nearly the ſame as in other parts of Europe, viz. turkeys, peacocks, common poultry, as cocks, pullets, capons, ſwans, ducks, pigeons, &c. The wild kinds are buſtards, wild geeſe, brent geeſe, wild ducks, teal, wigeon, plovers, pheaſants, partridges, woodcocks, growſe, quail, ſnipes, wood pigeons, land-rails, hawks of various kinds, kites, buzzards, herons, bitterns, crows, rooks, ravens, magpies, jackdaws, jays, blackbirds, thruſhes, nightingales, goldfinches, bullfinches, chaffinches, linnets, larks, yellowhammers, with a vaſt variety of other ſmall birds. The Corniſh chough and the wheat ear are ſuppoſed to be peculiar to England; the former is found plentifully in Cornwall, and the latter, which is equal to the ortolan in the delicacy of it's fleſh and flavour, in Suſſex.

With regard to fiſh, few countries in the world have a greater variety. The rivers and ponds abound in ſalmon, trout, eels, pike, carp, tench, barbel, perch, gudgeons, ſmelts, roach, dace, plaice, flounders, and

and craw fish. In some of the lakes of Wales, and in Winandermeer in Westmoreland, is found a very delicate fish called a char; it is of the trout kind, and thought to be peculiar to England. The surrounding seas are full of cod, mackarel, mullets, base, guardfish, haddock, whitings, herrings, pilchards, skate, turbot, soles, hollybuts, of which the most famous fishery is on the coasts of Cornwall and Devonshire, and what are preferred to all others by the voluptuous, john-dories, and mullets. Shell-fish are also found in plenty, as lobsters, crabs, prawns shrimps, oysters, scallops, cockles, muscles, wilks, periwinkles, &c. The coasts are sometimes visited by whales, and by vast numbers of porpoises. In some parts, a few seals, are seen upon the rocks, but not frequently.

The principal reptiles of this country are vipers, snakes, and worms; and the insects, bees, humble bees, hornets, wasps, ants, gnats, flies in great variety, and many other insects common to the other parts of Europe.

201. *Mineral Productions and Waters.*] Copper, lead, iron, and coal are found in many of the counties of England—wadd or black-lead only in Cumberland, where the mine is opened once in about seven years to supply the rest of the world. But the tin mines of Cornwall and Devonshire are the most valuable. It is remarkable, they were known several centuries before the Christian era, and have constantly been worked ever since that remote period of time. This metal, besides it's enriching the proprietors, affords a considerable revenue to the Prince of Wales, who is also Duke of Cornwall, and an important article of trade to the English, in almost every market of the known world. The mundic found in the Cornish tin mines was of no value, till the beginning of the present century, when Gilbert Clarke discovered a method of smelting of it, and now it brings in 150,000l. annually. No gold mines have hitherto been discovered in England, but small quantities of that metal have been found in the Cornish tin ore. There are several silver mines in Devonshire; but they have not been worked for many years, though they produced seven hundred pounds of fine silver in the year 1296.

Fuller's earth is found in several counties, and is found so necessary for the woollen manufacture, that the exportation of it is prohibited.

Marble, slate, freestone, and a great quantity of other useful substances, are found in the mines and quarries of England.

There are many medicinal waters in England, the principal are the hot-baths of Bath and Bristol in Somersetshire, and those of Buxton in Derbyshire; the mineral waters of Scarborough, Harrowgate, Tunbridge, Dulwich, Epsom, and Acton.

212. *Face of the Country, Mountains, Rivers, and Lakes.*] Whatever advantages other countries may derive from luxuriancy of soil, England thrives by the hand of industry, and exhibits scenes cheerful and warm. Flourishing cities and thriving towns, cheerful villages and comfortable cottages, with surrounding fields and meads, vallies and hills, and plains and downs, yellow with corn, green in perpetual verdure,

verdure, or ſpeckled with thouſands of flocks and herds, diverſify the proſpect. In the ports are ſeen veſſels fraught with the produce of every climate, or bearing hence in exchange the curious manufactures of England. Unnumbered are the diviſions into which the country is interſected by roads, rivers, and canals; in the latter are ſeen boats paſſing and repaſſing; on the roads the ponderous waggons labour along, and the lighter vehicles of convenience or pleaſure, drive rattling over the grounds both night and day.

The mountains of England ſeem diminutive, if compared with the Andes, the Atlas, or the Alps. The principal ones are the Peak in Derbyſhire, the Endle in Lancaſhire, the Skiddaw, Derwent-Fells, the Wrynoſe and Lanvellin in Cumberland, the Wolds in Yorkſhire, the Wrekin in Shropſhire, and the Cheviot hills on the borders of Scotland. But beſides theſe, there are many lofty hills, generally called Downs, ſcattered over the whole country, ſome of them forming long ridges or chains, as the Chiltern hills in Bucks, the Malvern hills in Worceſterſhire, the Cotſwold hills in Glouceſterſhire, and the South Downs in Suſſex.

England is well watered with rivers, which beautify the landſcape, fertilize the ſoil, and forward the buſineſs of manufactures and commerce; the principal are the Thames, the Medway, the Severn, the Trent, the Ouſe, the Tyne, the Wear, the Tees, the Avon, the Eden, the Derwent, the Ribble, the Merſey, and the Dee.

The lakes of England are but few, though it appears from hiſtory, and indeed in ſome places from the face of the country, that meres and fens have been very frequent in England, till drained and converted into arable land by induſtry. The chief lakes now remaining are Soham mere, Wittleſea mere, and Ramſey mere in the iſle of Ely, in Cambridgeſhire. All theſe meres, in rainy ſeaſons, are overflowed, and form a lake of forty or fifty miles in circumference. In Weſtmoreland, Winander mere is ten miles long, and two broad, and very deep and clear; and in the mountainous parts of Cumberland, there are many large and beautiful broad waters or lakes.

203. *Manufactures and Commerce.*] England is ſuperior to every other nation of the world, in the variety and excellence of it's woollen manufacture. This is accounted the ſtaple trade of the kingdom, and in the houſe of lords, the chancellor, with the great ſeal and mace lying by him, ſits before the throne on the firſt of the woolpacks, which, from an ancient cuſtom, are laid acroſs the room. It's cotton and ſilk works are alſo very conſiderable. The weaving of ſtockings was firſt invented, and is now very extenſively carried on in this country. Paper is likewiſe made in almoſt every part of the kingdom, and there are but few towns without their manufactures of hats. In the making of porcelain and delft ware many thouſands are conſtantly employed; they are unequalled in the execution of theſe beautiful wares, and theſe are exported not only to the different countries of Europe and America, but even to the Eaſt Indies; and ſuch is the excellence and ingenuity of the artificers of metals, that were we willing to adopt the mythology of the ancients, we might ſay that Vulcan had fixed upon England, as his eſpecial place of reſidence. Sheffield and Birmingham

have long been famous for their hard-wares, but theſe manufactures are not confined to theſe two particular towns. Artificers in braſs and iron, are to be found all over the country, and whether we regard their maſſive or minute works, the ponderous apparatus of ſhips, mills, &c. or the ſmaller conveniences of clocks, watches, &c. we may alike admire their abilities and improvements. Beſides all theſe, there are various other manufactures, too numerous to mention here. Theſe, the produce of their mines, as iron, lead, tin, copper, pit-coal, copperas, allum, &c. their cattle, (eſpecially their horſes, which form a principal article of commerce) corn, butter, cheeſe, pork, beef, biſcuit, &c. and the productions of their fiſheries, form the exports of this trading nation.

England did not begin to feel it's conſequence, as a commercial nation, till the reign of Queen Elizabeth. That princeſs firſt opened the eyes of her ſubjects to the advantages, which their ſituation naturally held out to them, and generally the efforts of her ſucceſſors have been directed to the ſame end.

During the infancy of foreign commerce, it was judged expedient to grant excluſive charters to particular bodies or corporations of men, hence the Eaſt India, South Sea, Hudſon's Bay, Turkey, Ruſſia, and Royal African Companies firſt took their riſe; but the trade to Turkey, Ruſſia, and Africa are now laid open; and it is the opinion of ſome, that if commercial reſtrictions were entirely abandoned in every quarter of the world, it would tend to the public benefit, to the increaſe of navigation, and to the improvement of the national revenue.

204. *Curioſities, natural and Artificial.*] Among the natural curioſities of England, the moſt remarkable are the ebbing and flowing well, the unfathomable caverns, and the mountains of the Peak. Similar curioſities, on a ſmaller ſcale, are to be met with in other parts of the country, and alſo petrifying, as well as hot and cold mineral ſprings.

The curious works of art are ancient and modern. The antiquities are Britiſh, Roman, and Saxon, or Daniſh. The Britiſh antiquities conſiſt chiefly of circles of ſtones or altars; theſe are generally rude and unfaſhioned with any chiſſel, like the memorials of the patriarchs. Veſtiges of theſe are to be met with in Cornwall, Devonſhire, Oxfordſhire, Cumberland, and many other parts of England; but the moſt remarkable monument of this kind, is Stonehenge on Saliſbury-plain, in Wiltſhire; from the amazing magnitude of the ſtones, it has even been doubted whether it was a production of human art; ſome have imagined that the ſtones are artifical, and were made on the ſpot, from a perſuaſion, that the ancients had the art of making ſtones with ſand, and a ſtrong lime or cement, but moſt authors are agreed that they were brought from a quarry of ſtones, called the Grey Wethers, on Marlborough Downs, fifteen miles from the ſpot. The upright ſtones are fixed in a kind of ſockets dug in a chalky ſoil, with ſmall flints driven in between the ſtone and the ſocket; they are from twenty to thirty feet high, and of a prodigious thickneſs; they have tenons on the top, and are connected together at the

the top by overthwart ſtones, or impoſts, of enormous ſize, which are morticed to receive the tenons. The outermoſt circle is near one hundred and eighty feet in diameter; between this and the next there is a ſpacious walk, which has a grand effect. This miſshapen fabric is ſuppoſed to have been the principal place of worſhip in England; where the arch-druid reſided and officiated in perſon.

The Roman antiquities in England conſiſt chiefly of altars, coins, monumental inſcriptions and military ways. The remains of Roman camps are alſo ſtill perceptible in almoſt every county; but the moſt amazing monument of the Roman power in England, was the wall of Severus, running through Northumberland and Cumberland, from Tinmouth to Solway Frith, about eighty miles in length. It was built to prevent the Picts and Scots from making incurſions into the Roman territories in Britain, but a principal part of it is now converted into a road.

The Saxon antiquities, found in England, conſiſt chiefly of old cathedrals and caſtles, and particularly camps, of which veſtiges are found in various parts of the country. But the moſt remarkable antiquity of the Saxons, is the rude figure of a horſe cut on the ſide of a green hill, a little to the north of Upper Lambourne in Berkſhire. The hill is called White-horſe Hill, and the figure takes up near an acre of ground. Saxon coins have been found in various parts of England, and in the Britiſh Muſeum there are preſerved many ſpecimens of Saxon learning, though it ſeems to have been then confined to a few perſons. The charters, of which ſeveral are ſtill preſerved, are written in a neat and legible hand, but the ſignatures are nothing more than a plain croſs, the name of the donor being added by the writer of the charter. The Daniſh antiquities are but few, and nearly reſemble thoſe of the Saxons.

Among the greateſt modern works of art in this country, we may reckon the ſhipping, mines, and canals. The coal works in the north of England are, ſome of them, eſpecially in the vicinity of Whitehaven, carried to a vaſt extent beneath the ſea; and the canals are carried upon lofty arches over high roads, navigable rivers, and extenſive vallies, and for miles underground they are cut through the heart of mountains.

205. *Schools and learned Men.*] The univerſities of England are thoſe of Oxford and Cambridge. The ſchools of Weſtminſter, Eton, and Wincheſter, are alſo eminent ſeminaries of learning; and at Woolwich and Portſmouth are two royal academies: beſides theſe, almoſt every town and even village has it's academy or ſchools, where literature and ſciences, or at leaſt their rudiments, are regularly taught.

To tell the progreſs of ſcience and the men that excel therein, from the days of Alfred the Great, who, in thoſe early days, was himſelf the friend and patron of learning, would require a very intimate acquaintance with the writings of the numerous Engliſh authors, and take volumes inſtead of a paragraph. Perhaps no nation ſince the revival of literature in Europe, has exceeded or even equalled that mixed race, the Engliſh, either in the poetic flights of fancy, or the more laborious works of ſtudious reſearch. Some of Alfred's immediate de-

ſcendants were eminent for their learning. Early in the thirteenth century, in the reign of Henry III. Roger Bacon, a friar at Oxford, wrote treatiſes on the flux and reflux of the ſea, on coſmography, aſtronomy, optics, metallurgy, and upon the impediments of knowledge. In the days of Henry VIII. the names of Wolſey, Leland, and others, were eminent in literature. At this time encouragement was given to learned foreigners to ſettle in England. Edward VI. during his ſhort life, encouraged thoſe foreigners, and patroniſed learning. During the bloody reign of the bigotted Mary, learning, as well as religious liberty, ſuffered an almoſt total eclipſe. Elizabeth, her ſiſter, was herſelf a learned princeſs: in her reign the Earls of Eſſex and Southampton, and Philip Sydney, were learned themſelves, and the patrons of genius. Shakeſpeare, Spencer, Camden, and other writers, flouriſhed during this period. James I. was an author and a patron of learning; he encouraged foreigners, and conferred honorary titles and pecuniary emoluments on the ſecond (or Francis) Bacon. His ſon, Charles I. had a taſte for the polite arts, eſpecially ſculpture, painting, and architecture. He was the patron of Rubens, Vandyke, Inigo Jones, and other eminent artiſts; and had it not been for the civil wars, he ſeemed likely to have converted his court and capital into a ſecond Athens. The collections he had made for that purpoſe, conſidering his pecuniary difficulties, were ſtupendous: ſuch was his expence, he poſſeſſed four and twenty palaces, moſt elegantly furniſhed. His favourite, the Duke of Buckingham, imitated him in that reſpect, and laid out the amazing ſum of four hundred thouſand pounds ſterling, upon his cabinet of paintings and curioſities. The Earl of Arundel, however, has been conſidered as the great Mœcenas of that age, and by the immenſe acquiſitions he made of antiquities, eſpecially his famous marble inſcriptions, may be conſidered as a patron or encourager of literature, equal to the greateſt of the Medicean princes. The enthuſiaſts for fine arts may account Cromwell a Goth: during his time the king's furniture was all put to ſale; his pictures, diſpoſed of at very low prices, enriched the principal collections of Europe. Even his palaces were pulled to pieces, and the materials of them ſold. Action, however, brings forward dormant or latent powers into excellence; and it has been thought that the force and compaſs of our tongue were firſt put to trial in that period of civil commotions, the ſpeeches of the parliament orators being of a ſtrain much ſuperior to what any former period produced. And Cromwell himſelf was not inſenſible to literary abilities: Uſher, notwithſtanding his being a biſhop, received a penſion from him; Marvel and Milton were in his ſervice; Waller, who was his relation, was careſſed by him. He gave one hundred pounds a year to the divinity profeſſor at Oxford; and intended to have erected a college at Durham, for the benefit of the northern counties. The reign of Charles II. was diſtinguiſhed for the great proficiency to which it carried natural knowledge, eſpecially by the inſtitution of the Royal Society. It has been accounted by ſome the Auguſtan age in England. Certain it is that the Paradiſe Loſt, by John Milton, was publiſhed at that time, than which no other poem has received higher encomiums, as uniting in itſelf

itſelf all the excellence of all the ancients. The names of Boyle, Hooke, Sydenham, Harvey, Temple, Tillotſon, Butler, Cowley, Waller, Dryden, Otway, and many others, all diſtinguiſhed this period by their productions; it would have been well they had univerſally been as eminent for their piety. In this reign lived Chriſtopher Wren, the eminent architect; and painters were numerous.

The reign of Queen Anne has generally been accounted the Auguſtan age in England. To the names of Locke, Halley, Ray, and a number of others, with the celebrated Newton, in her time were added thoſe of Addiſon, Prior, Pope, Swift, Arbuthnot, Congreve, Steele, Rowe, and many other eminent writers, in the catalogue of authors of that day. Perhaps when the preſent age ſhall have paſſed away, poſterity may look back on it's improvements, and call it the golden age of ſciences and arts. Perhaps ſuperior abilities to thoſe which diſtinguiſh the reign of the preſent king, in almoſt every department of literature and the arts, were never known in any age or nation of the world.

206. *Principality of Wales.*] This country is politically included in England, with which it joins, and it's natural hiſtory is pretty much the ſame. This country was formerly famous for it's poets and bards, and was the ſeat of learning when England ſcarcely knew the uſe of letters. It abounds in Britiſh and Roman antiquities, which it's own learned authors have particularly deſcribed. The iſle of Angleſea, called Mona by Tacitus, was the principal ſeminary of the druids, and the chief ſeat of their rites and religion, except Stone Henge on Saliſbury Plain; and monuments ſimilar to that, but on a ſmaller ſcale, are numerous here. Among the Roman antiquities is Caerphilly-caſtle in Glamorganſhire, the remains of which ſtill ſhew it to have been once a beautiful fabric: one half of the round tower is fallen down, and the other overhangs it's baſis above nine feet, affording as great a curioſity as the celebrated leaning tower at Piſa in Italy.

Among the many lofty mountains in Wales, where the natives retreated and made ſo many long and hardy ſtruggles againſt the Roman, Anglo-Saxon, and Norman powers, the moſt remarkable are Snowdon in Caernarvonſhire, and Plinlimmon, which lies partly in Montgomery and partly in Cardiganſhire. This country likewiſe abounds in lakes, the principal of which are Lyhn Tigid, or Pimble Mere, and Lyhn Savedhan, or Brecknock Mere; the latter of which is ſo full of fiſh, that the inhabitants ſay, two-thirds of it is water, and the reſt fiſh. The road from England to Holyhead, runs over a lofty mountain called Penmanmoer, and affords a grand or awful ſcene to a ſtranger; over his head hangs a craggy and enormous rock, threatening every moment to cruſh him with it's fall, and below him a frightful precipice, with the waves of the ſea tremendouſly daſhing againſt the foot of the mountain.

207. *Hiſtory.*] England was inhabited originally by a people called Britons, of the ſame ſtock with the ancient Gauls or Celtæ. The firſt conqueſt that was made of this part of the iſland was by the Romans; it was begun in the year 43, under the Emperor Claudius, and was

completed in 78, under Domitian. Julius Cæſar had invaded this iſland in the years 54 and 53, before the Chriſtian æra, but he did not effect a conqueſt, his forces being repulſed by the natives. In 410, the Romans, being no longer able to defend ſo diſtant a province, relinguiſhed it to the old inhabitants, who, calling in the Saxons from Germany, to aſſiſt them to repel the invaſion of the Picts and Scots, were all conquered by them, except thoſe who retired into Wales.

The Saxons, arriving at different times, formed ſeven different kingdoms, which having ſome kind of union among themſelves, are all together called the Heptarchy: this continued through three or four centuries, till the ſeveral kingdoms which compoſed it were all reduced by Egbert, one of the princes, into the one extenſive kingdom of England about the year 827.

About the year 866 the Danes, under their King Ivar, invited by the Earl Bruern Bocard, made a deſcent upon England, and conquered Northumberland. Soon after this they conquered Eaſt Anglia; and in 873 they were maſters of Mercia. About 87 they were in poſſeſſion of the whole kingdom, King Alfred being obliged to hide himſelf from their purſuit; but, ſoon after, this prince entirely defeated them, and forced them either to abandon the iſland, or ſubmit to his government: thoſe who choſe the latter ſettled in Eaſt Anglia. They generally revolted at the beginning of every reign; and about 1003 Swain, King of Denmark, conquered all the northern parts of England, and King Ethelred retiring into Normandy, the whole country ſubmitted. Upon his death the Danes proclaimed his ſon, Canute, king; but the Engliſh having recalled Ethelred, the iſland was, as it were, divided between them, till 1017, when Canute became maſter of all England. Under Edward the Confeſſor, in 1041, the Saxon line was reſtored without blood; but the Normans, under William the Conqueror, ſubdued the kingdom in 1066, and the kings of England ever ſince have been the deſcendants of this prince. In 1283 Wales was ſubdued by Edward I. Lewellen, their laſt king, being defeated and ſlain; and in 1602, England and Scotland were united under James, the ſucceſſor of Elizabeth.

SECTION XXIV.

Scotland.

Scotland lies between fifty-four and fifty-nine degrees north latitude, and between one and ſix weſt longitude. It is bounded on the weſt, north, and eaſt, by the Iriſh, Deucaledonian and German ſeas, or more properly the Atlantic Ocean; and on the ſouth by England, from which it is ſeparated by no natural boundary, if we except the Solway

Engraved for Walker's Geography &c.

Solway Frith, near Carliſle, on the weſt; and the mouth of the Tweed, at Berwick, on the eaſt. In the time of the Romans, however, it extended much farther, being bounded by the wall raiſed by that people between Newcaſtle and Carliſle; and, under the Norman kings of England, it included Northumberland, Weſtmoreland, and Cumberland.

208. *Diviſions.*] Scotland was anciently divided into two parts, ſeparated by the Frith of Forth. The northern diviſion contains fifteen counties, and the ſouthern eighteen: and theſe counties or ſhires are ſubdivided as in the following table.

Shires.	*Chief Towns.*
EDINBURGH.	Edinburgh, Muſſelburgh, Leith and Dalkeith.
HADDINGTON.	Dunbar, Haddington, and North Berwick.
BERWICK.	Berwick, Dunſe, and Lauder.
ROXBOROUGH.	Jedburgh, Kelſo, and Melroſs.
SELKIRK.	Selkirk.
PEEBLES.	Peebles.
LANARK.	Glaſgow, Hamilton, Lanark, and Rutherglen.
DUMFRIES.	Dumfries, Annan
WIGTOWN.	Wigtown, Stranraer, and Whitehorn.
AIRE.	Aire, Kilmarnock, Irwin, Maybole, Stewarton, and Saltcots.
DUMBARTON.	Dumbarton.
BUTE, and CAITHNESS.	Rothſay, Wick, and Thurſo.
RENFREW.	Renfrew, Paiſley, Greenock and Port Glaſgow.
STIRLING.	Stirling, and Falkirk.
LINLITHGOW	Linlithgow, Borrowſtounneſs, and Queen's Ferry.
PERTH.	Perth, Scone, Dumblane, Blair, Dunkeld.
KINCARDIN.	Bervey, Stonhive, and Kincardin.
ABERDEEN.	Old Aberdeen, New Aberdeen, Fraſerburg, Peterhead, Kintore, Strathbogie, Inverary, and Old Meldrum.
INVERNESS.	Inverneſs, and Inverlochy.
NAIRNE and CROMARTIE.	Nairne, Cromartie, Tayne, Tarbat.
ARGYLE.	Inverary, Dunſtafnag, Kellonmer, Campbletown.
FIFE.	St. Andrews, Cowper, Falkland, Kirkaldy Inverkeithing, Ely, Burnt Iſland, Dumfermling, Dyſart, Anſtruther, and Aberdour.
FORFAR.	Montroſe, Forfar, Dundee, Arbroth, and Brechin.
BANFF.	Banff, and Cullen.
KIRCUDBRIGHT.	Kircudbright.
SUTHERLAND.	Straithy, and Dornock.
CLACMANAN and KENROSE.	Culros, Clacmanan, Alloa, and Kinroſs.

Ross.	Taine, Dengwall, Fortroſe, Roſemarkie, and New Kelſo.
ELGIN.	Elgin, and Forres.
ORKNEY.	Kirkwall, and Skalloway.

In all thirty-three ſhires, which chuſe thirty repreſentatives to ſit in the Parliament of Great Britain; Bute and Caithneſs chuſing alternately, as do Nairne and Cromartie, and Clacmanan and Kinroſs.

The royal boroughs which chuſe repreſentatives are

Edinburgh	1
Kirkwall, Wick, Dornoch, Dengwall, and Tayne	1
Fortroſe, Inverneſs, Nairne, Forres	1
Elgin, Cullein, Banff, Inverary, Kintore	1
Aberdeen, Bervy, Montroſe, Aberbrothic, Brechin	1
Forfar, Perth, Dundee, Cowper, St. Andrews	1
Crail, Kilrenny, Anſtruther, Eaſt and Weſt Pittenweem	1
Dyſert, Kirkaldy, Kinghorn, Burnt Iſland	1
Inverkeithing, Dumfermline, Queensferry, Culroſs, Stirling	1
Glaſgow, Renfrew, Rutherglen, Dumbarton	1
Haddington, Dunbar, North Berwick, Lauder, Jedburgh	1
Selkirk, Peebles, Linlithgow, Lanark	1
Dumfries, Sanquhar, Annan, Lochmaban, Kirkudbright	1
Wigtown, New Galloway, Stranrawer, Whitehorn	1
Aire, Irwin, Rothſay, Campbletown, Inverary	1

Some geographers divide Scotland into two parts, diſtinguiſhed into Highlands and Lowlands, on account of the mountainous country in the north, and the flat tracts on the ſouth. The dreſs of the Highlanders is peculiar to themſelves, and very much reſembles the military habit of the ancients: it conſiſts chiefly of the bonnet, fillebeg, and and plaid.

209. *Climate, Soil, and vegetable Productions.*] Scotland, though ſituated in ſo high a latitude, that it's longeſt day in ſummer, in the more northern parts, is more than eighteen hours, and it's longeſt winter night of conſequence equally long, is yet far more temperate than might at firſt be imagined. The warm breezes from the ſurrounding ſeas not only ſoften the natural keenneſs of the air, but alſo, by keeping it in agitation, render it pure and ſalubrious, and prevent thoſe epidemic diſtempers which prevail in other countries; however, in the neighbourhood of ſome high mountains, generally covered with ſnow, the air is keen and piercing for nearly nine months in the year.

The ſoil varies in different parts of the country. It is not in general ſo fertile as that of England, and in many places ſeems much better adapted for paſturage than agriculture; the latter, however, has of late been attended to, and ſo rapidly has the art of cultivation been diffuſed over the kingdom, that the aſpect of the country appears to be materially changed. In many ſpots over which the barren heath formerly ſpread it's ſable carpet, the moſt thriving plantations now riſe to view; and in others, where ſcarce a blade of graſs could vegetate, the corn begins to wave it's yellow head.

The vegetable productions of the Lowlands are much the ſame as thoſe of England, but they do not arrive ſo early at maturity.

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The Highlands ſtill contain many extenſive ſterile tracts; and indeed the ſoil in many places ſeems only adapted to the propagation of firs, which thrive amazingly on the moſt rocky and barren mountains.

Scotland appears to have been once overrun with timber. The deepeſt moraſſes contain large logs of wood, and there ſtill remains ſeveral extenſive foreſts. Etrick wood, in the ſouth of Scotland, is ſuppoſed to be the remains of the Sylva Caledonia, famous in antiquity for being the reſort of wild boars; and there are ſome woods in the Highlands, which reach twenty or thirty miles in length, and four or five in breadth, and produce moſt excellent oak, but being a vaſt diſtance from water carriage, it is not of much emolument to the proprietors.

213. *Animals.*] The animals of Scotland are pretty much the ſame with thoſe of England. The Highlands are ſtocked with red-deer, roe-bucks, hares, rabbits, foxes, wild cats, and badgers; and the hills in general are covered with black cattle and ſheep. Plenty of game, as it is called, is likewiſe found here, particularly grouſe and heath-cock. The horſes in Scotland are exceedingly ſmall. Formerly their kings and nobility endeavoured, by importing a larger ſpecies of that uſeful animal, to improve the breed, but they were found, by repeated trials, to degenerate both in ſize and ſpirit. The Lowlanders at this time make uſe of a breed which came originally from England.

Two remarkable birds, called the capperkaily, and the tamarcan are inhabitants of the Highlands. The capperkaily is about the ſize of a turkey, and eſteemed a great delicacy. The tarmarcan is a ſpecies of pheaſant, and feeds on the tender tops of the fir and pine branches, from which the fleſh contracts a turpentine flavour, accounted very agreeable both to the palate and ſtomach.

The rivers and lakes in Scotland abound in ſalmon, trout, jack, and eel; and the ſea ſupplies them with a variety of ſalt-water fiſh. Of late years, ſocieties have been erected for the improvement of their fiſheries, and they are at preſent brought to a degree of perfection that falls very little ſhort of the Dutch. Their ſalmon in particular, is of very great advantage to them, as they have it in their power to cure, and ſend it much earlier to the Levant and ſouthern markets, than the Engliſh or Iriſh can, and conſequently find a quicker ſale for it.

211. *Minerals.*] Gold is one of the minerals of Scotland. Small ſolid pieces of that much deſired metal, are often found in brooks, after a great torrent. At the nuptials of James V. with a daughter of France, covered diſhes, filled with coins of Scotch gold, were preſented to the gueſts by way of deſert; and in the time of that monarch, the mines of Crawford-moor were worked by Germans, under the direction of one Cornelius, their chief; but the civil wars which happened in the reign of Mary, Queen of Scots, obliged theſe people to abandon their works, which have never ſince been reſumed.

The lead mines in Scotland, of which there are ſeveral, produce great quantities of ſilver. Some copper mines have been diſcovered near Edinburgh, and no country boaſts of greater plenty of iron-ore

both in mines and ſtones. The eaſt, weſt, and northern parts of the country, produce exceeding good coals, of which large quantities are exported. In Lanerkſhire or Clydſdale, large pieces of lapis lazuli are ſometimes dug up. Allum mines have lately been diſcovered in Banffſhire. The country abounds in flint, talc, ſea ſhells, fuller's earth, and potter's clay; and in many parts are found variegated pebbles, chryſtal, and other tranſparent ſtones, which admit of a fine poliſh.

Mineral ſprings have alſo of late years been diſcovered.

212. *Face of the Country, Mountains, Rivers, and Lakes.*] The preſent improving ſtate of Scotland gives us to ſee cultivation, canals, and various public works; and the reſpectable names and employments of men of buſineſs or citizens, in place of the deſert waſtes, and the feudal manners of the lordly chieftains in their lonely caſtles, with their poor, but devoted clans about them, which ſo long deformed this country.

The principal mountains in Scotland, are the Grampian Hills, the Pentland Hills, Lammer Muir, and the Cheviot or Teviot Hills. Beſides theſe, Scotland contains many detached mountains, ſome of which are very high, and of beautiful forms.

The chief rivers are the Forth, the Tay, the Spey, the Clyde, and the Tweed; beſide theſe, there are many of leſs note, plentifully ſtocked with ſalmon, trout, and a variety of other fiſh.

Scotland abounds in lakes, by the inhabitants called lochs, the principal of which are the Loch Tay, the Loch Lomond, and the Loch Du. They alſo frequently give the name of loch, to an arm of the ſea, of which Loch Fyn is one, and is ſixty miles long and four broad. On the top of a hill, near Lochneſs, accounted near two miles perpendicular, is a lake of freſh water, about ſixty yards in length, and hitherto thought to be unfathomable; this lake never freezes, whereas the Lochanwyn, or green lake, about ſeventeen miles from it, is perpetually covered with ice.

213. *Manufactures and Commerce.*] The manufactures of Scotland are pretty much of the ſame kind with thoſe of England, though not generally brought to the ſame perfection. At Carron, however, in Stirlingſhire, they have a moſt extenſive iron manufacture of both caſt and wrought metal, and their linen manufacture has increaſed to a great degree; theſe, their mines, and inexhauſtible fiſheries, chiefly furniſh the exports of this country.

The prodigious bounties and encouragements that have been granted of late years, for the benefit of the trade and manufactures of Scotland, they have, by indefatigable pains and induſtry, turned to advantage; their ſhipping has conſequently greatly increaſed, and excepting the Eaſt Indies, they carry on an extenſive commerce with every nation to which their ſouthern neighbours trade.

214. *Curioſities.*] If we except their lakes and mountains, the natural curioſities of Scotland are but few. Upon the top of a mountain called Skorna Lappick, in Roſsſhire, twenty miles diſtant from the ſea, are found great numbers of oyſter, and other ſea ſhells, toge-

ther

ther with a heap of white ſtones, and ſome as clear as chryſtal. The columnar rocks between the caſtle and harbour of Dunbar reſemble the Giant's Cauſeway in Ireland. In Fifeſhire, there are ſeveral caverns of extraordinary dimenſions; and at Slains, in Aberdeenſhire, is a petrifying cave.

The antiquities in Scotland are principally druidical, Pictiſh, Daniſh, and Roman. Of the former, there are many monuments and temples ſtill diſcernible in the northern parts, and eſpecially in the iſlands, but none of them equal to Stone-henge in Saliſbury Plain. There is in Perthſhire, a barrow which ſeems to be a Britiſh erection: it reſembles the hull of a ſhip with the keel uppermoſt: the people call it Ternay, which ſome imagine to be a contraction of *terra navis*, the ſhip of earth. It ſeems to be very antique, and, perhaps, was erected to the memory of ſome Britiſh Prince, who acted as auxiliary to the Romans, for it lies near Auchterarder, not many miles diſtance from the great ſcene of Agricola's operations.

A great variety of Roman antiquities are found in various parts of the country; but the moſt remarkable now remaining is the Pretenture or wall, originally maked out by Agricola, and finiſhed by Antoninus Pius. This wall extends from Carron, upon the Frith of Forth, to Dunglaſs, upon the Frith of Clyde, more than thirty-ſeven Engliſh miles in length; on the ſouth-ſide of it ran a large well paved military way, which never leaves the wall above one hundred and forty yards. We learn from the inſcriptions on this wall, which are ſtill extant, that the whole of the legion, called Secunda Auguſta, and the Vexillationes of the twentieth and the ſixth legions were employed in compleating this Pretenture. At the bottom of the Grampian Hills, is a ſtriking remain of Roman antiquity, in great preſervation, having no leſs than five rows of ditches and ſix ramparts on the ſouth ſide; and of the four gates which lead into the area, three of them are very diſtinct and plain, viz. the prætoria, decumana and dextra: the prætorium is the place where the general's tent ſtood, and this is generally thought to have been the camp occupied by Agricola, before he fought the bloody battle, ſo well recorded by Tacitus, with the Caledonian king, Galgacus, who was defeated. A very beautiful antiquity in this country, was a temple on the banks of the Carron, in the form of the pantheon at Rome, or the Paul's dome in London. It was ſuppoſed to be built by Agricola, or ſome of his ſucceſſors, to the god Terminus, as it ſtood near the Pretenture, which bounded the Roman empire in Britain to the north; but to the grief of antiquarians, this monument of the Romans was demoliſhed, for the purpoſe of mending a mill pond. Near it are ſome artificial, conical mounts of earth, which ſtill retain the name of Dunipace or Duni-pacis, which may ſerve to evince that there was a kind of ſolemn compromiſe between the Romans and Caledonians, that the former ſhould not extend their empire farther towards the north. Innumerable are the coins, urns, utenſils, and inſcriptions, and other remains of that people, that have been found in different parts of Scotland, many of them at a great diſtance north of the Pretenture. Veſtiges of Roman camps are alſo found in various parts of the country.

Daniſh

Daniſh camps and fortifications are very diſtinguiſhable by their ſquare figures and difficult ſituations, in ſeveral northern counties of Scotland. Some houſes of ſtupendous appearance ſtill remain in Roſsſhire, but whether they are Daniſh, Pictiſh, or Scottiſh is uncertain. Two columnal monuments of a very extraordinary conſtruction, and generally aſcribed to the Picts, are ſtill ſtanding; the one at Abernethy, in Perthſhire, the other at Brechin, in Angus; each of them is hollow in the inſide, and externally furniſhed with a ſtair-caſe. At a place called Aberlemno, near Brechin, are four or five ancient obeliſks erected in commemoration of the victories of the Scotch over the Danes, each of which are adorned with baſs-reliefs of men on horſeback, and many emblematical figures and hieroglyphics, unintelligible at this diſtance of time. But the moſt remarkable one of this kind is near the town of Fortroſe, in Murray; it conſiſts of one large ſtone, and riſes about twenty-three feet in height from the ground, and is ſaid to ſink no leſs than twelve or fifteen below the ſurface, ſo that the whole height is at leaſt thirty feet, and it's breadth near five. On what occaſion it was erected is unknown.

The parallel roads of Glen Roy, Lochabar, form a curioſity of the artificial kind, which has hardly any thing like it in the world. The glen itſelf is extremely narrow, and the hills on each ſide very high, but not remarkably rocky. On the declivity of the hills, on both ſides of the glen are three ſpacious roads, levelled out of the earth, one above another, and directly oppoſite on each ſide. The uppermoſt road is about fifty yards above the centre one, the loweſt more than one hundred beneath it. They are about ſeven miles long. They are carried along the ſides of the glen with the utmoſt regularity. Other ſmall glens fall into Glen Roy: the parallel roads ſurround all theſe ſmaller ones, but where Glen Roy ends in the open country, there are not the ſmalleſt veſtiges to be ſeen. Where deep burns, or gullies of water, croſs theſe roads, they avoid both the deſcent and aſcent in a curious manner, ſo that on the ſide where the roads enter the hollows, they rather aſcend along the ſlope, and deſcend on the oppoſite ſide, until they come to the level, without the traveller being ſenſible either of the aſcent or deſcent, where rocks fall in the way; and there are ſome ſmall ones in the courſe of theſe paths, the roads ſeem abruptly broken, there is no veſtige of any cauſeway, or projected path, for paſſing them. The road begins on each ſide of the rock, keeping the regular line as before. Theſe roads are inacceſſible at the eaſt-end, but open at the weſt; but for what purpoſe they were made, it is not eaſy to determine. Some have imagined that they are the works of the druids, but there are none of their buildings or circles of ſtones. The country people are perſuaded that they were deſigned for the chace, but that theſe terraces were made after the ſpots were cleared in lines from the wood, to tempt their game into the open parts, after being rouzed, in order that they might come within reach of the bowmen concealed in the woods above and below. Ridings for the ſportſmen are ſtill common in all the great foreſts of France, and other countries on the continent, that the hunters may either purſue

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their game, without being interrupted by trees and bushes, or shoot at it in it's passage.

We may reckon the military roads, among the foremost curiosities of modern art in Scotland. These, by rendering the Highlands accessible, have greatly contributed to their present improvement, and were owing to the industry of the soldiery. They were begun in 1723, under the directions of general Wade, who forced his way through rocks, before supposed to have been unconquerable. Many of them hang over the capacious lakes of the country, and formerly afforded no other road to the natives than the paths of sheep or goats, where even the Highlander crawled with difficulty, and kept himself from tumbling into the subjacent water, by clinging to the plants and bushes of the rock. Many of these rocks were too hard to yield to the pick-axe, and the miner was obliged to have recourse to gunpowder; and often, when the place was innaccessible in any other way, he was obliged to begin his labours, suspended from above by ropes, on the face of the horrible precipice. The bogs and moors had also their difficulties to be overcome, but all were at length constrained to yield to the perseverance of the English troops.

In some parts the soldiers, in imitation of the Romans, left engraven on the rocks the name of the regiment to which each party belonged, who were employed in these works; and it has been remarked, they were not less worthy of being immortalized than the vexillatios of the Roman legions, civilization being the consequence of the labour of both.

215. *Schools and learned Men.*] Scotland contains four universities, which are, according to seniority, St. Andrews, Glasgow, Aberdeen, and Edinburgh; besides these, public schools are erected in every parish. In these illustrious seminaries, literature is divested of the ostentation of rich endowments, and the professors are men eminent in their respective departments. This country has produced such an illustrious train of learned men, that to particularize them would be to give a literary history of Europe for upwards of fourteen hundred years. The works of Ossian seem to shew that poetry was no stranger to this climate in very remote ages. Patrick, the celebrated apostle of Ireland, who lived in the fifth century, was a native of this kingdom, which became, for some time, a refuge for the learned, especially the little Island of Jona, called St. Columb Kill. The writings of Adamnanus, and other authors, who lived before and at the time of the conquest of England, which are still extant, are specimens of their literature at that period. Charlemagne held a correspondence by letters with the kings of Scotland, and employed Scotchmen in planning, settling, and ruling his favourite universities, and other seminaries of learning in France, Germany, and Italy. The pure Latin stile of Buchanan is a sufficient proof that the study of languages was cultivated in his time; but the great destruction of the Scottish monuments of learning and antiquities have rendered their early annals very lame, and too often fabulous.

The discovery of logarithms by Napier of Merchiston, both in point of ingenuity and utility, may justly vie with any other inven-

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tion of more modern times; and, ever ſince that æra, mathematical ſtudies have been proſecuted in Scotland, and, indeed, in Europe in general, with facility and ſucceſs. The names alſo of Keil, Gregory, Maclaurin, Simpſon, Pitcairn, Arbuthnot, Cullen, and many others, hold an eminent place among the literati of Europe; and Scotland produces at this day, in the ſeveral branches of literature and ſcience, works that are hardly exceeded in any other country. But the modern writers of theſe countries are naturally included under the common name of Engliſh, from the language they uſe.

216. *Hiſtory.*] Scotland was anciently called Caledonia, and the inhabitants Caledones, who were of Celtic original. In the fourth century they were diſtinguiſhed into Scots and Picts. In 85 Agricola, the Roman general, ſubdued this part of the iſland, but did not retain more of the conqueſt than that part which is ſouth of the Forth and Clyde. In 121, Adrian relinquiſhed more, building a wall from the Solway Frith to the river Tyne. In 144, the Romans again extended their boundaries as far as the wall of Agricola; but Severus, though he conquered the whole country in 208, thought proper to adhere to the boundary of Adrian.

Upon the Romans quitting this iſland, in 410, the Scots regained the poſſeſſion of all that which is now called Scotland, and made excurſions very far ſouthwards, though without retaining their conqueſts. About 839, the Picts are ſaid to have been entirely reduced by Kenith II. the firſt ſole king of all Scotland. In 1296, Edward I. king of England, conquered all this country, and the Engliſh were not finally expelled till the year 1314. In 1602, James VI. king of Scotland, ſucceeded to the crown of England, on the death of queen Elizabeth; and in 1707 the union between the two crowns was completed.

The iſles of Scotland chiefly form three cluſters: on the weſt lie the Hebrides, or Weſtern Iſles; on the north the Orkneys, or Orcades; and ſtill farther north the Iſlands of Shetland, where the hardy inhabitants derive much of their ſuſtenance from climbing the ſtupendous rocks after birds and their neſts, which multiply in aſtoniſhing abundance. In ſummer they can ſee to read at midnight; and their ſeas, at that ſeaſon, are covered with the fiſhing-veſſels of different nations, who reſort thither to catch herrings; but in their tedious winter they are deprived of every communication with other countries, and not a ſingle ſhip is ſeen on their coaſts.

SECTION XXV.

Ireland.

Ireland is ſituated between ſix and ten degrees of weſt longitude, and between fifty-one and fifty-five degrees of north latitude. It is bounded on the eaſt by George's Channel, or the Iriſh Sea, which divides

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vides it from Great Britain; it's other ſhores are waſhed by the Atlantic. The name of this iſland is probably derived from a Phœnician or Gaelic term, ſignifying the remoteſt habitation weſtward.

217. *Diviſions.*] Ireland is divided into four provinces: on the north lies Ulſter, on the eaſt Leinſter, on the ſouth Munſter, and the weſt Connaught.

LEINSTER Province contains twelve Counties.

Counties.	*Chief Towns.*
LOUTH.	Drogheda, Dundalk, Carlingford, Ardee, Dunleer.
EAST MEATH.	Trim, Kells, Athboy, Navan, Duleek, Ratoath. Ardbraccan.
WEST MEATH.	Mullingar, Athlone. Kelbeggan, Kinnegad, Fore.
LONGFORD.	Longford, Granard, Laneſborough, Johnſtown.
DUBLIN.	Dublin, Swords, Newcaſtle, Balruddery, Finglaſs, Glaſnevin.
KILDARE.	Naas, Athy, Kildare, Caſtledermot, Kilcullen, Rathangan, Kilcock, Monaſtereven.
KING'S Co.	Philipſtown, Bir, Tullamore, Banagher, Ballyboy. Geaſhill.
QUEEN'S Co.	Maryborough, Mountmellick, Portarlington, Ballynekill, Mountrath, Stradbally, Ballyroan, Abbyleix, Borris in Oſſory.
WICKLOW.	Wicklow, Arklow, Cary's Fort, Rathdrum, Bray, Bleſſington, Dunlavan, Baltinglaſs, Carnew.
CARLOW.	Carlow, Old Leighlin, Leighlin-bridge, Tullogh, Hacketſtown, Bagnalſtown, Clonegall.
WEXFORD.	Wexford, Enniſcorthy, New Roſs, Fethard, Gorey, Bannow, Clonmines, Taghmon, Duncannon, Ferns.
KILKENNY.	Kilkenny, St. Canice, Thomaſtown, Callan, Gowran, Knocktopher, Inniſtioge, Caſtlecomber, Ballyragget.

ULSTER contains nine Counties.

DONEGAL.	Donnegal, Ballyſhannon, Johnſtown, Killybegs, Lifford, Letterkenny, Raphoe, Rathmullen, Rathmelton, Buncranagh,
LONDONDERRY.	Londonderry, Colerain, Newtownlimavady, Magherafelt, Ballinderry.
ANTRIM.	Carrickfergus, Belfaſt, Liſburn, Antrim, Randalſtown, Ballymenagh, Ballycaſtle, Connor, Larne, Ballymony.
TYRONE.	Omagh, Dungannon, Augher, Strabane, Stewardſtown, Clogher.
FERMANAGH.	Enniſkillen, Newtownbutler, Liſneſkea, Clabby. Maguireſbridge.

ARMAGH.

Armagh.	Armagh, Charlemont, Lurgan, Portadown, Tanderagee, Loughgall, Legacurry, or Rich-hill.
Down.	Downpatrick, Newry, Dromore, Kellileagh, Bangor, Newtown, Hilſborough, Magherelin, Moira. Donaghadee, Rathfryland, Warrenſtown.
Monaghan.	Monaghan, Glaſlough, Clowniſh, Carrickmacroſs, Caſtleblaney.
Cavan.	Cavan, Kilmore, Belturbet, Cootehill, Killyſhandra.

MUNSTER contains ſix Counties.

Cork.	Cork, Bandon, Cloyne, Mallow, Roſs, Baltimore, Youghall, Kinſale, Cloughnakilty, Charleville, Caſtlemartyr, Middleton, Rathcormuck, Donerail, Bantry, Skibbereen, Dunmanway, Macromp, Buttevant, Kanturk, Caſtlelyons, Carryglaſs, Killworth, Mitcheſtown, Fermoy, Inniſkean, Inniſhannon, Timoleague, Newmarket, Ballyclough, Annagh, Douglaſs.
Waterford.	Waterford, Dungarvan, Liſmore, Tallagh, Paſſage, Caperquin.
Tipperary.	Clonmel, Caſhel, Tipperary, Carrick, Thurles, Nenagh, Feathard, Burraſkean, Roſcrea, Clogheen, Silvermines, Cullen, Cahir.
Limerick.	Limerick, Killmallock, Aſkeaton, Rathkeal, Newcaſtle, Hoſpital, Bruff, Kilfinan.
Kerry.	Tralee, Dingle Icouch, Ardfert, Aghadoe, Killarney, Caſtle Iſland, Lixnaw, Liſtowell.
Clare.	Ennis, Killaloe, Bryanſbridge, Kilfenora, Six-milebridge, Newmarket, Coroſin.

CONNAUGHT includes five Counties.

Galway.	Galway, Loughrea, Athenry, Tuam, Clonfert, Eyrecourt, Gort.
Roscommon.	Roſcommon, Abbyboyle, Tulſk, Elphin, Ballinaſloe, Caſtlereagh, Athlone.
Mayo.	Caſtlebar, Ballinrobe, Foxford, Killala, Newport, Ninola, Ballina.
Sligo.	Sligo, Coloony, Achonry.
Leitrim.	Leitrim, Jameſtown, Carrick.

In Ireland the king governs by deputy, and his lord lieutenant, or viceroy, is competent to the execution of laws; or, in his abſence, or on his deceaſe, the lords juſtices are the ſupreme governors. The laws are enacted by authority of the two Iriſh houſes of parliament, and ſent over to Great Britain, where the king reſides, to receive his aſſent.

In Ireland there are	*Members.*
32 counties, which ſend to parliament	64
99 boroughs	198
8 cities, 9 towns, 1 manor, and 1 univerſity, each 2	38
Total	300

218. *Climate, Soil, and vegetable Productions.*] Ireland is more temperate than even England, as to heat and cold, but it's air is more humid, from the adjoining Atlantic, and it is ſtill more ſubject to clouds and rain.

The ſoil is various; in ſome places it is ſo rich, as to want no manure, and in a few places ſo barren, that huſbandry can hardly render it fertile.

In this long oppreſſed country, agriculture has been much neglected, but happily things are now taking a different turn. Where the lands are not naturally fertile, the inhabitants take care to manure them with dung, aſhes, mud, or lime, in order to enrich the ſoil. By theſe, and various other improvements lately made in agriculture, the lands in Ireland produce much larger quantities of corn, flax, artificial graſſes, culinary vegetables, &c. than formerly. This happy change is in a great meaſure owing to the Dublin Society, eſtabliſhed for the improvement of various arts and manufactures, among which huſbandry engages a very conſiderable ſhare of their attention. The premiums offered by this ſociety have introduced the cultivation of clover, trefoil, the ſaint-foin, lucern, rye-graſs, and various other vegetables for the food of cattle. Many unprofitable bogs have alſo been drained, and rendered excellent land.

There are at preſent few foreſts in Ireland, and thoſe confined chiefly to the provinces of Leinſter and Ulſter. Theſe produce excellent timber, particularly oak. Formerly the whole country was covered with woods, but, ſince the reformation, they have been cut down in ſo extraordinary a manner, that the inhabitants are now obliged to import large quantities of timber for their buildings.

219. *Mineral Productions.*] It is principally in this century that the mines of Ireland have been diſcovered, though there appear to be ſome veſtiges of Daniſh works of this ſort near Clontarf, on the edge of Dublin bay. In the county of Antrim there is one which conſiſts of a mixture of ſilver and lead, every thirty pounds of lead-ore producing about a pound of ſilver; but another mine of the ſame kind in Connaught does not produce half the quantity of ſilver, while one at Wicklow is ſtill richer than that in the county of Antrim. About twelve miles from Limerick, in the county of Tipperary, two mines, one of copper and the other of lead, have been diſcovered. Iron mines are diſperſed all over the kingdom. Here are alſo quarries of marble, freeſtone, and fine ſlate. Coals are alſo dug in Ulſter and Connaught, and at Kilkenny, in Leinſter, there is a peculiar ſpecies, ſomething reſembling the canal coal of Lancaſter, very hard, of a bright black, burning freely, and emiting little or no ſmoke.

The mineral waters in Ireland, are the tepid water of Mallow, in the county of Cork; the chalybeate ones of Caſtleconnel, in the county of Limerick: the cathartic ones of Francis-ſtreet, and Hanover-lane, in Dublin; the ſulphureous ones of Lucan, near Dublin; and of Swadlinbar, in the county of Cavan, with ſeveral others. The water of Lough Neagh, of a petrifying quality, is likewiſe of ſome note for curing ſcrophulous ſores.

220. *Animals.*] There is great reaſon to believe that the mooſe-

deer was formerly an inhabitant of this country, from it's horns being ſometimes dug up; one pair of theſe has meaſured eleven feet from the extreme tips of the horns. Two other great curioſities in this iſland are, the gos-hawks and ger-falcons. Ireland was formerly overrun with wolves, and they were not entirely extirpated till within the preſent century, as appears from ſome preſentments, for raiſing money for deſtroying them, in the old grand-jury books in Munſter. The wolf-dogs are peculiar to this country; they are much larger than maſtiffs, and ſhaped ſomething like greyhounds, but much groſſer, and very gentle and governable. The other animals are much the ſame with thoſe of England. In their amazing herds of horned cattle, formerly, conſiſted the chief wealth of the inhabitants, and at preſent they form one great article of their exports. Their flocks of ſheep are alſo prodigiouſly large, and in many places, where the paſture is fine, and the climate exceedingly temperate, they are ſhorn twice in a year, to the great emolument of their owners. Hogs are likewiſe very numerous, as are geeſe, turkeys, and fowls of various kinds. Rabbits are in much greater plenty than in England, and moles and venomous creatures have not yet found their way here. The fiſh on the coaſts of Ireland are in greater plenty than on thoſe of England, and at the ſame time frequently better and larger in their kind.

221. *Face of the Country, Mountains, Rivers, and Lakes.*] Perhaps no country in the world has improved ſo much in a political capacity during the preſent century, if we except Ruſſia, as Ireland has done. The unhappy quarrels that took place on account of different national and profeſſional diſtinctions, and that for ages deſolated this wretched country, a detail of which would alike blacken the Iriſh and the Engliſh of thoſe rueful times, theſe unhappy differences have in a great meaſure ſubſided, and the remembrance of them, together with the unbecoming diſtinctions that produced them, appear by degrees to be paſſing away.

Ireland at preſent exhibits an improving ſtate of agriculture, increaſing manufactures, and commerce extending to every quarter of the globe. Canals are now opened in different parts of the country, and the roads are pretty good. The little vehicles, however, which totter along the roads, and on which the inland trade as yet diſadvantageouſly labours, may ſhew the evil of being too much attached to the unimproved manners of our forefathers, even in the common affairs of life. Theſe, however, are not the only carriages in Ireland. Though the infant commerce of this country cannot exhibit numerous waggons, as in England, the wealthy and the luxurious have their elegancies and ſuperfluities equal to the other nations of Europe.

There are ſeveral lofty chains, as well as ſingle mountains, in this kingdom; and they have three words in the Iriſh that expreſs the different degrees of their elevation, viz. *knock*, *ſlieu*, and *bien*. Among the laſt, or higheſt ſort, are the mountains of Carlingford, the Curlieus, which ſeparate the counties of Sligo and Roſcommon, thoſe in the county of Donegal, about Lough Swilly, the Mangerton mountains in the county of Kerry, Croah Patrick in the county of Mayo, the Gaulty mountains, in the county of Tipperary, Slieu-bloom, running

ning through part of the King and Queen's counties, and part of the county of Tipperary, the Brandon mountains in the county of Kerry, to the eaſt of Smerwick Bay, Slieu-galen in the county of Tyrone, the mountains of Wicklow, particularly the Sugar-loaf Hill; the moun ains of Mourne and Iveah, in the county of Down, are eſteemed among the higheſt in the kingdom, particularly that called Slieu-denard, which is thought to be one thouſand and fifty-ſix yards in perpendicular height, and many others, ſeveral of which contain veins of iron, lead, copper, coals, quarries of ſtone, ſlate, marble, &c.

The principal rivers of Ireland are the Shannon, Barrow, Nore, Suir, Bann, Lee, Liffey, and Boyne.

Ireland abounds with lakes, or loughs, as they are called in this country, of which Lough Neagh, near twenty miles in length, and from ten to twelve in breadth, is moſt remarkable for it's petrifying qualities. The lake of Killarney is celebrated for it's echoes and enchanting proſpects; and Lough Earne, in the county of Fermanagh, almoſt ſurrounded by lofty eminences, or mountains, abounds, as well as the others, with a variety of fiſh. It is diverſified with upwards of three hundred iſles, moſt of them well wooded, inhabited, and covered with cattle. There are many other loughs, or lakes, in this country, and here, as well as in Scotland, they give the name of lough to an inlet, or arm of the ſea.

222. *Commerce and Manufactures.*] The articles of manufacture and commerce in Ireland are much the ſame with thoſe of England; however, in the compariſon between them, in this reſpect, we may perhaps fitly enough conſider Ireland as an infant rapidly ſhooting out, and England as a youth gaining ſlow but ſteady acquiſitions of ſtrength.

The linen manufacture is the ſtaple trade of Ireland, the increaſe whereof within the preſent century is really aſtoniſhing. The only market for vending the whole produce was comprehended in a few rooms, in two or three inns, in and near Church-ſtreet, and Pill-lane, in Dublin, until the year 1728, when the linen-hall in that city was built and opened by the truſtees of the linen manufacture; ſince which they have, from time to time, made many and large additions, whereby it now contains about four hundred rooms, all fully occupied, many of them perhaps two or three times each market, there being three annually. The yarn-hall adjoining is alſo an extenſive building, wherein a great deal of buſineſs is tranſacted, both for home manufacture and exportation. Yet all this doth not deſcribe one-half of the increaſe, for from Belfaſt only there has been, for many years paſt, ſeveral hundred thouſand pounds worth yearly exported to London, and ſundry other ports in England and foreign parts; and lately a ſpacious linen-hall has been built in that town, at the expence of the inhabitants, containing near three hundred rooms, ſo that the exports from thence of linens at preſent fall little ſhort of thoſe from Dublin; but if we add the exports from Newry, and linen-yarn from Londonderry, and other ports in Ulſter, they exceed thoſe from Dublin in that line by near half a million ſterling yearly. The cotton manufacture, though but a very few years ſince it took root in this kingdom, has made a more rapid progreſs in the ſhort time than even

the linen-trade, there being divers water-mills for roving and ſpinning erected, many hundred looms at work, and ſeveral ſtamp-yards in ſundry parts of the kingdom, all for compleating the various branches of this uſeful manufacture. The whole amount of exports at this time of linen-cloth is about two millions ſterling annually, and that of linen-yarn five hundred thouſand pounds.

The other exports from Ireland are, live cattle, beef, pork, bacon, butter, cheeſe, tallow, raw hides, tanned leather, calf ſkins, dried ſoap, candles, ox and cow-horns, herrings, ſalmon, oats and oat-meal, wheat, flour, lead, copper-ore, &c. broad-cloths, frizes, fine ſtuffs, ratteens, camblets, fine tabbinets and poplins (which laſt exceed thoſe of any other country) wool, bay yarn, with many other things too tedious to enumerate in a work of this kind.

223. *Curioſities.*] Were the beautiful lakes, water-falls, and glens, in Ireland, leſs numerous, they might readily be admitted as rarities, or natural curioſities.

Of the ſubterraneous caverns in this country, thoſe near Kilkenny are the moſt remarkable, being hardly leſs curious than the celebrated ones of Antiparos, in the Archipelago. The appearance of the caverns within impreſs upon the ſpectators the idea of grand gothic ſtructures, gaily diverſified with innumerable cryſtalline and white petrifactions, pendent from the roof like icicles, or encruſted on the ſides and floor in the ſtile of ruſtic ornament. People have gone above a quarter of a mile in theſe caverns. The paſſages into ſome of the caverns are ſo very low, that the curious have been obliged to creep through them; in theſe they have proceeded until they have heard the noiſe of a ſubterraneous river, but none have ventured farther.

The Giant's Cauſeway, in the county of Antrim, has been accounted the greateſt natural curioſity in Ireland, being the moſt remarkable one of it's kind in the known world. The name of it may naturally convey to us the idea of ſome ſtupendous work of art; and as ſuch it ſeems to have been conſidered in the days of ignorance, when the name was firſt applied; modern philoſophy however looks on it with a different eye. To conceive a proper idea of this unparalleled curioſity, we may imagine an approach to it from the ſea; it's firſt appearance is that of a bold rocky ſhore, with extenſive ranges of ſhelving, on which people may walk. The rocks, inſtead of being diſpoſed in laminæ, or ſtrata, form baſaltes, or angular columns. The columns generally are pentagonal, or have five ſides, and are ſo cloſely attached to each other, that, though perfectly diſtinct from top to bottom, ſcarcely any thing can be introduced between them. This extraordinary diſpoſition of the rocks continues to the water's edge, and under the ſea, it alſo obtains in a ſmall degree on the oppoſite ſhore of Scotland.

The cryſtallization of ſalts in the works of creation, as well as under a chemical proceſs, aſſumes certain regular and determinate forms, as cubes, various ſorts of pyramids, parallelopipeds, &c.; and we might imagine, that this celebrated promontory, made up of theſe innumerable maſſive columns of ſtone, owing their origin to ſome ſimilar operation in nature, were not at all more wonderful than the cryſtallization

of

of ſalts, except as their ſtupendous ſize impreſſes ſuch little beings as we are with amazement; but the cauſeway is ſtill more curious in the little than the great. The columns themſelves are not each of one ſolid ſtone in an upright poſition, but compoſed of ſeveral ſhort lengths exactly joined, not with flat ſurfaces, as in works of art, but, what is moſt extraordinary, they are articulated into each other as a ball in a ſocket, the one end of the joint having a cavity into which the convex end of the oppoſite is exactly fitted; this is not viſible but by diſjointing the two ſtones. The depth of the concavity or convexity is generally from three to four inches; and what is ſtill farther remarkable of the joint, the convexity and the correſponding concavity is not conformed to the external angular figure of the column, but exactly round, and as large as the ſize of the column will admit. It is ſtill further remarkable, that the articulations of theſe joints are frequently inverted. In ſome the concavity is upwards, in others the reverſe.

The lateſt and moſt philoſophic concluſions on the formation of this natural curioſity appear to be, that the whole body of the rocks was once in a ſtate of fluidity, being no other than the lava of a burning mountain; that the prodigious maſs of melted ſtone cracked in it's cooling into the forms we now ſee it in (and in ſome of the joints the ſtone is not cracked quite through, but ſolid in the middle) that it may ſince have been deranged and broken by earthquakes; that theſe have ſwallowed up the volcano itſelf, and that the waters of the neighbouring ocean now roll over the place where it once ſtood.

The Iriſh nation appears to be of greater antiquity than any other in Europe. It has, in common with other countries, it's druidical remains, as circles of ſtones, cairns, tumuli, in which urns are commonly found, cromliachs, &c. and it appears till this day, there remains with their language a remarkable veſtige of their manners or ſacrifices; they kindle fires on high places at midſummer eve, though Chriſtianity has long ſince ſupplanted the worſhip of the ſun.

It is generally known, that from the remote ages of antiquity, the children of men have migrated from the eaſt to theſe parts of the world; and it has been thought by ſome, that colonies of that very ancient people, the Scythians, and with more appearance of probability, that the Phœnicians, or their deſcendants, the Carthaginians, found their way to Spain along the Mediterranean, and from thence to this iſland at a very early period, under the name of Mileſians; moreover, that the Phœnicians, who were a maritime people, traded to this country. The tumuli, or monumental heaps in Ireland, and the name of Scotia firſt applied to this country, have been conſidered as derived from the Scythians; and with a far more ſubſtantial appearance of truth, the very curious antiquities of Ireland have been conſidered as remains of the Phœnicians, and the arts they introduced: of theſe the moſt inconteſtible are the various metal inſtruments, eſpecially the brazen ſwords, which are of the ſame metal and conſtruction of thoſe lately found upon the plains of Cannæ, with which the Carthaginians fought. There has been a ſtriking agreement alſo diſcovered between the Iriſh and Punic languages. Others have concluded, that the Iriſh

were originally colonies of Britons, driven out from their country by the Belgæ, who, 350 years before the Chriſtian era, croſſed the channel from Gaul, and ſeized the whole ſouthern coaſt from Kent to Devonſhire; and that hence, not from the Scythians, they received their ancient name of Scuites, or Scots, which ſignifies the wanderers, or refugees.

The moſt noted antiquities of Ireland are the Pharos, or round columnal towers; the learned however are not agreed about the particular uſe to which theſe edifices were applied; ſome ſay they were places of penance, others that they were belfries, the very name of them, in Iriſh *cloghabd*, importing a ſteeple with a bell. But the prevailing opinion ſeems to have been, that they were anchorite pillars, ſuch as Simon Stylites and his followers, with uncommon auſterity and perſeverance, to the amazement of the gazing multitude, uſed to ſtand upon motionleſs like ſtatues, and as it were removed from the earth, and it's low cares, to mediate only upon heavenly things. Again it has been remarked, that over great part of the Eaſt, they have tall round ſteeples, called *minarets* with balconies at top, whence a perſon calls the people to public worſhip at ſtated hours; and it has been ſuppoſed, as the Iriſh had their arts from Phœnicia, that from thence alſo came the model of theſe towers, which ſerved, as the minarets of the Eaſt do at preſent, till bells came into uſe.

At the hill of Tarah, about eighteen miles north-weſt from Dublin, there ſtill remain veſtiges of the circular forts, in which the ſeveral chiefs uſed to pitch their tents, or erect other temporary ſheds, on occaſion of the triennial conventions held there, when the monarch, provincial kings, and ſubordinate toparchs, ſolemnly aſſembled to adjuſt rights, enact laws, and promulge them. As Ireland never felt the ſway of the Roman empire, ſo it ſcarcely exhibits any Roman antiquities; yet it appears that that ambitious people were not unacquainted with this iſland; for Tacitus ſays, it's ports and harbours were better known by trade and commerce than thoſe of Britain. When the ambaſſador of Henry V. claimed precedence at the council of Conſtance, he founded his title upon his maſter being Lord of Ireland, a ſtate of undiſputed antiquity. If the Danes, at the time of their expulſion, left any veſtige of their former power in this iſland, either from the hatred of the Iriſh to their memory, or ſome other cauſe, they ſeem generally at this day to be demoliſhed or extinct.

224. *Learning and Schools.*] Greece and Egypt, in very remote antiquity, were ſeminaries of learning to the reſt of the world; and Ireland in later days, ſeems to have anſwered the ſame deſcription to the other nations of Europe. When the ravages of the Goths and Vandals had deſolated the improvements of Europe, and reached alſo to a conſiderable extent on the African continent; and when monkiſh ſuperſtition, ſtill more baneful to ſcience, had completed what the Goths begun, learning appears to have flouriſhed in Ireland. Spencer ſays, it is certain that Ireland had the uſe of letters very anciently, and long before England; he thought they were derived from the Phœnicians. Bede ſpeaks of Ireland as the great mart of literature, to which they reſorted from all parts of Europe. He relates

that Oſwald, the Saxon king, applied to Ireland for learned men, to inſtruct his people in the principles of Chriſtianity. Camden ſays, it abounded with men of ſplendid genius, in the ages when literature was rejected every where elſe; according to him, the abbies Luxieu in Burgundy, Roby in Italy, Witzburg in Frankland, St. Gall in Swiſſerland, Malmſbury and Lindisfern in England, and Jona or Hy in Scotland, were founded by Iriſh monks. The younger Scaliger ſays at the time of Charlemagne, and two hundred years before, almoſt all the learned were of Ireland. The firſt profeſſors in the univerſity of Paris were from this iſland; and it is ſaid that Alfred brought profeſſors to his newly-founded college of Oxford from this country. At this day, the patron ſaints, as they are called, of ſeveral nations on the the continent, are acknowledged to be Iriſh; hence we may ſee how Ireland obtained the name of the Iſland of Saints. Armagh, in old times, is ſaid to have had ſeveral thouſands of ſtudents at once, and here were other ſeats of learning equally famous. In fact, when we read of the ancient literature of Scotland, we muſt underſtand it as ſpoken of Ireland, under it's ancient name of Scotia, or the improvements of Scotland immediately derived from hence. Ireland retained the name of Scotia, till ſo late as the fifteenth century, with the addition of Major or Vetus, to diſtinguiſh it from Caledonia or Albania, that is, the preſent Scotland, which in the eleventh century began to be called Scotia Minor, or Nova. The ancient Scotch writers of the greateſt repute are ſo far from denying their Iriſh extraction, that they ſeem to glory in it; and king James I. in one of his ſpeechs, boaſts of the Scottiſh dynaſty being derived from that of Ireland.

The college of Dublin is the only univerſity in Ireland. Several free ſchools have been eſtabliſhed in this kingdom; beſides theſe, there are numerous academies or ſchools, where literature and ſciences are regularly taught.

It is ſurpriſingly ſtrange, ſays Rapin, who makes the names Scots and Iriſh ſynonimous, that the converſion of the Engliſh ſhould be aſcribed to Auſtin (a miſſionary of Rome) rather than to Aidin, to Finian, to Colman, to Cedd, to Diumna, to Furſeus, and other Iriſh or Scots monks. Among the literati alſo, and reputed ſaints of Ireand, we may reckon the names of Brigid, Brendan, Columb-cill, Columban, Gall, Fiacre, Virgilius, Kilian, Rumnoldus, Dympna, Fuſcus, Malachy, and innumerable others. Virgilius was biſhop of Saltzburg, a native of this country, and ſurnamed Solivagus; he lived in the eighth century, and ventured to incur the diſpleaſure of the Pope, by oppoſing philoſophy to the ſuperſtition of the times. If Virgil, ſays the Roman Pontiff, maintains that there is another world, another ſun, another moon, and that this earth is round, ſo that there is another ſky oppoſite to our ſky, and other men with their feet oppoſite to our feet, *anathema eſto.*

The more modern authors in Ireland, from their language, are with the other writers of theſe iſlands, naturally included under the common title of Engliſh literati. Some of them have been ſo eminent for wit, genius, learning, or ſcience, that to mention their names only, may inform many what works this country has latterly produced.

Among theſe we may reckon the names of Uſher, Boyle, Berkeley, Swift, Leland, Parnell, Boyee, the Lords Moleſworth, Orrery, and Clare, Hans Sloane, Cunningham, Goldſmith, Sterne, Congreve, Farquhar, Jephſon, Burke, and Sheridan.

225. *Hiſtory.*] The firſt inhabitants of Ireland were of Celtic original. Their hiſtory is very ancient, but much obſcured by fiction or romance. In 795, the Danes ſeized a part of it, and were never compleatly ſubdued, till the Engliſh took poſſeſſion of the whole. Before this period, the iſland had been divided into a number of petty ſovereignties, and the country was harraſſed by the contentions of the chiefs, as well as by the frequent and bloody wars with the Danes. Such was the ſituation of this kingdom, when Henry II. of England firſt conceived the deſign of reducing it under his own dominion. It has been ſuppoſed, he was provoked at the Iriſh princes, for giving aſſiſtance to the French. It was affirmed by his flatterers, that the Iriſh had originally poſſeſſed themſelves of their country, by permiſſion of Gurguntius, a Britiſh king; and that, as deſcendants of the Britons, they were the natural and rightful ſubjects of the Engliſh monarch. It was alſo ſuggeſted, that the renowned king Arthur, Egfred the Northumbrian prince, and Edgar, one of the Saxon kings of England, had all led their armies into Ireland, and there made valuable acquiſitions, which their ſucceſſor was in honour bound to recover and maintain. The king took a more effectual method of enſuring his reputation. He applied to the Pope, repreſented that the inhabitants of Ireland were ſunk into the moſt wretched ſtate of corruption, both with regard to morals and religion; that Henry, zealous for the honour and enlargement of God's kingdom, had conceived the pious deſign of erecting it in this unhappy country; was ready to devote himſelf, and all his powers to this meritorious ſervice; implored the benediction of the pontiff; and requeſted his permiſſion and authority to enter Ireland, to reduce the diſobedient and corrupt, to eradicate all ſin and wickedneſs; to inſtruct the ignorant, and ſpread the bleſſed influence of the Goſpel in all it's purity and perfection; promiſing at the ſame time to pay a yearly tribute to St. Peter, from the land thus to be reduced to his obedience, and to the Holy See. Adrian, the reigning pope, rejoiced at this application, which tended ſo much to the advancement of his own power. A bull was therefore immediately formed conformably to the moſt ſanguine wiſhes of Henry, which was ſent to England without delay, together with a ring, the token of his inveſtiture as rightful ſovereign of Ireland. But whatever inclination the king of England, or the Pope might at this time (A. D. 1159) have for the ſubjection of Ireland, the ſituation of the Engliſh affairs obliged Henry to defer it for ſome time.

In the mean time, inteſtine broils harraſſed this country; and among other revolutions, Dermod, king of Leinſter was depoſed as a man utterly unworthy of his ſtation, and another of his family was raiſed to the throne. The depoſed prince ſought the protection of the Engliſh; at firſt he was joined by private adventurers, yet with the countenance of Henry II. theſe firſt made ſettlements in this country in 1169, and in 1172, the king arrived himſelf, and in his treaty with

Roderick,

Roderick, who was conſidered as monarch of Ireland, the whole iſland was ſubmitted to him. The ſucceſſes of Robert Bruce, king of Scotland, raiſed great commotions among the Iriſh, who were tempted to transfer their allegiance from the kings of England to thoſe of Scotland: in 1315, he expelled the Engliſh out of almoſt of all the places they held in this iſland, and was proclaimed king of Ireland. But the Scots were expelled in 1318, and the Iriſh ſubmitted to Edward II. They appear to have remained quiet during the ſubſequent part of this reign; but in that of Edward III. they once more revolted. This monarch, however, having ſubdued the kingdom, treated the nation with ſuch lenity, as entirely gained their affections. Till the reign of Henry VIII. the kings of England only aſſumed the appellation of Lords of Ireland; he took the title of King of Ireland, which his ſucceſſors have continued ever ſince.

226. *Man and Jerſey Iſles.*] The Iſle of Man is centrally ſituated between England, Scotland, and Ireland. It's length from north to ſouth is about thirty miles; it's breadth from eight to fifteen; and the latitude of the middle of the iſland 54 deg. 16 min. north.

The air is mild, and the articles of it's produce the ſame with the lands that ſurround it. In this iſland the horſes are very ſmall. There are no mines in this iſland, though it is ſaid to abound with lead, iron, and copper; and alſo with quarries. ſlates and ſtone. It contains ſeveral harbours, particularly that of Douglaſs, the capital town of trade, which has a mole extending into the ſea; and Ramſey bay, where ſhips may ride ſafely from all winds, except thoſe at north-weſt. It's curioſities conſiſt chiefly of Runic ſepulchral inſcriptions, which are ſometimes dug up, together with ancient monuments of braſs, daggers, and other weapons, partly of braſs, and partly of pure gold.

Hiſtory frequently mentions the kings of Man, who for ſome ages were maſters of the ſurrounding ſeas; till, in 1263, Alexander II. king of Scotland, ſubdued the iſland, from which time it continued tributary to that crown, till it was reduced by Edward I. of England. Edward III. beſtowed it on his favourite, the Earl of Saliſbury. Henry IV. gave it firſt to the Northumberland family, and then to John Stanley, whoſe poſterity, the Earls of Derby, enjoyed it, till by failure of heirs male, it devolved upon the Duke of Athol, who married the ſiſter of the laſt Lord Derby.

For many years, this place ſwarmed with ſmugglers, outlaws, debtors, &c. where they lived ſecure from the reach of the laws. The government having taken this into conſideration, in the beginning of the year 1764, a treaty was ſet on foot for the purchaſe of the iſland by the Britiſh crown, which in 1765 was concluded, in conſideration of the ſum of 70,000l. being paid to the proprietor. In conſequence of this purchaſe, the king has now the ſame rights, powers, and prerogatives as the former owners enjoyed. But though the form of it's government is altered, the Duke ſtill retains his territorial property in the iſland. Their fiſheries ſupply the principal part of their exports.

The

The iſlands of Jerſey, Guernſey, Alderney, and Sark are all ſituated on the ſouth ſide of the Engliſh Channel, in Mount St. Michael's Bay, between Cape La Hogue and Cape Frebelle on the coaſt of France.

Jerſey and Guernſey are each about twelve miles in length, and have governors, which are appointed by the king of England. Alderney and Sark are dependent on the two former. They all originally belonged to the Normans; and Jerſey afforded protection to Charles II. during his exile.

The iſlands are all exceedingly healthy, particularly Jerſey. The valleys are fruitful, and contain plenty of ſheep and cattle; but huſbandry is much neglected by the inhabitants, who employ themſelves chiefly in cultivating their orchards, and making cider, with which both theſe iſlands abound; they are likewiſe very intent upon the improvement of commerce. At Jerſey, there is a manufacture of ſtockings, which, together with caps, form the ſtaple commodity of that place; but a conſiderable trade in fiſh is carried on between theſe iſlands and Newfoundland, and they diſpoſe of their cargoes in the Mediterranean. The inhabitants ſpeak a very bad French, with an intermixture of Engliſh words.

SECTION XXVI.

Denmark, Norway, &c.

Lapland forms the northern coaſt of Europe, and the neighbouring powers of Denmark, Sweden, and Ruſſia claim different diviſions of it; but from ſuch a land of ice, and of ſnows, mountains, and moraſſes, we can hardly expect them to derive much profit. The ſkins of ſquirrels, foxes, &c. compoſe the trifling tribute the Laplanders pay, and the medium of what little traffic they carry on. (See art. 149.)

Of the Kingdoms of Denmark, Norway, &c.

Theſe two kingdoms, which were united in the year 1376, by the marriage of Aquin, king of Norway, with Margaret, daughter and heireſs of Waldemar, king of Denmark, were formerly part of Scandinavia, a large country, comprehending Denmark, Norway, and Sweden.

Denmark, including Norway, is one of the moſt northern kingdoms of Europe, and includes the following dominions: Denmark Proper, territories in Germany, Norway, part of Lapland, and ſeveral iſlands in the Baltic, and in the German Ocean, or North Sea.

The

Engraved for Walkers Geography

The moſt ſouthern part of Denmark is nearly in the ſame latitude with Dublin; it's moſt northern territories lie quite within the Arctic Circle.

Denmark Proper is bounded on the north by the Cattegate, or Schaggerac Sea, on the ſouth by Germany, on the weſt by the German Ocean, and on the eaſt by the Sound.

227. *Conſtitution, Language, Religion, Profeſſion.*] The national religion is Lutheriſm. The king is deſpotic; but the adminiſtration of civil juſtice in this kingdom is conſidered as a model for other nations, and all the laws are contained in one quarto volume. Their language is a dialect of the ancient Teutonic, formerly uſed in all parts of Scandinavia. Thoſe in the higher ranks of life generally uſe the German, or High Dutch language; they, alſo ſpeak the French fluently, and generally uſe it to ſtrangers.

228, *Diviſions.*] Denmark Proper is divided into two parts, called North and South Jutland, and ſubdivided into the following dioceſes:

NORTH JUTLAND.		SOUTH JUTLAND.	
Dioceſes.	*Chief Towns.*	*Dioceſes.*	*Chief Towns.*
Aalbourg,	Aalbourg.	Gottorp,	Sleſwick.
Wiburg,	Wiburg.	Hederſtive,	Hederſtive.
Aarhuſen,	Aarhus.	Apenrade,	Apenrade.
Ripen,	Ripen.	Flenſburg,	Flenſburg.
		Tendere,	Tendere.
		Huſum,	Huſum.
		Eyderſtede,	Eyderſtede.

The Iſlands of Denmark are,

Iſles.	*Towns.*	*Iſles.*	*Towns.*
Seeland or Zealand,	Copenhagen and Elſineur.	Falſter or Falſtra,	Nicoping.
Funen,	Odenſee or Ottenſee.	Mona or Mune,	Stege.
		Saltholm,	Samſoe.
Arroe,	Kopping.	Alſen,	Sunderſburg.
Langland,	Rutcoping.	Femeren,	Samos.
Lalland,	Naxchow.	Bornholm,	Nex.

229. *Baltic Sea.*] The waters neither ebb nor flow in the Baltic, though a current ſets through the Sound, or mouth of it, into the German Ocean. Sometimes, indeed, this current is ſtopped by ſtrong winds from the N. W. and then large quantities of water are driven into the harbours of the Baltic. Between the continent, and the large iſlands of Zealand and Funen are the two famous mouths or ſtreights, called the Great and Little Belt, and the Ore Sound. The latter, which ſeparates Denmark from Sweden, is not above an hundred and thirty-one fathoms broad in the narroweſt part. And this being the uſual paſſage for ſhips in and out of the Baltic, and under the dominion

of

of the king of Denmark, that prince exacts a certain tribute or toll, from all ſhips trading to any part of the Eaſt Sea.

309. *Air, Soil, and Produce.*] The air is ſharp, but it's rigour is abated from it's vicinity to the ſea. Their ſummers are very ſhort, but hot, and vegetation goes on very faſt. The ſoil is in many places barren, eſpecially on the high mountains, which abound in ſeveral parts of the country; but there are very large and fertile paſtures in the vallies, where black cattle are fed, and many of them ſent to the Netherlands, where they grow to a prodigious ſize. Here is alſo a numerous race of ſtrong, though little, horſes, eſpecially in Wiburg. In ſome parts there are excellent arable lands, which, beſides producing corn ſufficient for the inhabitants, furniſh conſiderable quantities for exportation. Mecklenburg is in a great meaſure ſupplied with corn from the Iſlands of Falſter and Mona; and the Dutch fetch many ſhip loads annually from the Iſland of Lalland.

231. *Mountains, Rivers, and Lakes.*] None of the mountains of Denmark merit a particular deſcription. The higheſt are on the north-eaſt ſide of Gottorp; but there are many others diſſeminated through the whole country.

The rivers are very numerous in this country, eſpecially in South Jutland and the Duchy of Sleſwick, but not one large enough to receive ſhips of any conſiderable burthen. The Eyder is the largeſt, and will admit of large ſhips at it's mouth; but this is rather a bay than a river. The ſmaller, however, though not navigable, greatly contribute to fertilize the countries through which they flow. There are a conſiderable number of lakes too, which, as well as the rivers, abound in fiſh of various kinds, as ſalmon, perch, tench, trouts, eels, flounders, &c.

232. *Manufactures and Commerce.*] The Danes have ſome manufactures of hardware, and artiſts of every kind are now pretty well advanced in their reſpective profeſſions. They may probably ſoon equal thoſe of other nations, but at preſent the ſale of their productions is almoſt limited to their own country.

Many attempts have been made to render the trade of this kingdom very extenſive, but they have not yet ſucceeded. It may indeed, at preſent, be conſidered as the centre of the important and profitable trade of the Baltic. Here are ſeveral companies eſtabliſhed for the encouragement of trade, particularly the Aſiatic company, the Weſt Indian and Guinea companies, a general trading company, and an Icelandiſh Finmark company. But the favourite project of drawing the extenſive trade of Hamburgh to Altena, a town not above a mile diſtant from it, but in the dominions of Denmark, has not yet been ſucceſsful. The exports of this country are black cattle, horſes, corn, butter, tallow, hides, ſtock-fiſh, train-oil, tar, pitch, iron, and timber, of various kinds; oak is forbidden, by a particular ordinance, to be ſent out of the kingdom. The imports, beſides the Eaſt and Weſt Indian commodities from their ſettlements in thoſe parts, conſiſt of ſalt, wine, brandy, &c.

In the year 1736, a bank was eſtabliſhed at Copenhagen, whoſe notes, from ten to a hundred rix-dollars, paſs current in every part of the

the kingdom. An insurance company for shipping was also established about the same time, and it appears from the custom-house books of 1770, that three thousand one hundred and sixty ships and small craft entered the port of Copenhagen during that year.

233. *Learning and Schools.*] Besides the university at Copenhagen, consisting of four colleges, there are several well regulated schools in most of the large towns in the kingdom. Denmark has produced several learned men, among whom we may reckon Tycho Brahe, Borrichius, and the Bartholines, especially eminent in astronomy or medicine.

The ancient inscriptions, cut upon the rocks in several parts of Denmark, have much engaged the attention of the learned. They are in the Runic character, and thought to be historical, but so imperfectly known even to antiquarians themselves, that they are now ignorant of their true import. This method of cutting the accounts of memorable events upon rocks, is thought to be the original method of writing, before paper of any kind, or waxen tables were known. "Oh that my words," said Job, "were graven with an iron pen and lead, in the rock for ever?"

SECTION XXVII.

Norway, Iceland, &c.

Norway is bounded on the south by the entrance into the Baltic, called the Cattegate; on the west and north by the Northern Ocean; and on the east by a long ridge of mountains, which separates it from Sweden.

234. *Divisions.*] It is divided and subdivided in the following manner:

Divisions.	*Subdivisions.*	*Chief Towns.*
North Division,	Wardhuys, or Norwegian Lapland,	Wardhuys
Middle Division,	Drontheim and Berghen,	Drontheim, Berghen Stavanger.
South Division,	Anslo or Aggerhuys,	Aggerhuys, Frederickstadt, Christiana.

235. *Climate and Produce.*] The air in Norway is generally pure and salubrious; very dry in the midland parts of the country, but moist on the sea coasts. In winter the cold is excessive, and the whole country seems covered with ice and snow. The peasants bring the produce of their lands to market upon sledges, and carry back in the same vehicles the commodities they want in their sequestered places

places of abode. Nor are the heats of ſummer leſs remarkable; the various ſpecies of vegetables, particularly barley, grow up and ripen in ſix weeks, or two months, vegetation being always accelerated in a wonderful manner when there is only a ſhort ſeaſon allowed. Hence we need not be ſurpriſed to find that, notwithſtanding the ſevere froſts, great quantities of corn are produced in Norway. The paſtures alſo, eſpecially in the vallies, are equal to thoſe in moſt countries; ſo that the inhabitants have cattle, butter, cheeſe, &c. ſufficient for their own conſumption. They have alſo garden vegetables in great plenty; and they have lately made very conſiderable improvements in gardening, and propagating fruit-trees. Their large and extenſive foreſts form a principal ſource of their wealth. In theſe are found amazing quantities of fir, pine, elm, aſh, yew, beech, oak, alder, &c.

236. *Foſſils.*] Norway abounds in quarries of excellent marble of all colours; ſome detached pieces of alabaſter; ſeveral kinds of ſpar, chalk-ſtone, cement-ſtone, mill-ſtone, baking-ſtone, ſlate, talc, ſwine-ſtone, the magnet or load-ſtone, and the amianthus or aſbeſtos. In this are likewiſe found amethyſts, agate, granates, beautiful cryſtals, pyrites or quartz, &c. but there are no flints.

The metals are of ſeveral kinds. At Numedale, near Drammen, there is a mine with a vein of pure maſſy ſilver; there is another with very rich ore at Jarleſberg; and a third at Kondgſberg. There are ſeveral copper mines, three of them remarkably rich. Iron mines are found almoſt every where in the mountains. Here are alſo mines of quickſilver, ſulphur, ſalt, vitriol, and alum.

237. *Animals.*] The tame animals of Norway are a breed of ſmall but well proportioned horſes, black cattle, ſheep, goats, kids, a few hogs, and a great number of cats and dogs. The wild animals are the elk, the rein-deer, the lynx, the bear, the glutton, the fox, the wolf, the leming, the ermin, the marten, the beaver, the hare, the rabbit, and the wild cat; there are many of them found in all the cold northern countries.

There are moſt of the birds in Norway that are common to Europe, and it's ſea-coaſts are covered with innumerable flights of water fowl; and here are numerous flocks of fowl that are peculiar to the northern countries.

There is a very great variety of fiſh found in the lakes, rivers, or ſeas of Norway; and the latter is the habitation of ſeveral extraordinary creatures, among which the moſt remarkable are the ſea-ſnake and kraken.

238. *Mountains, Rivers.*] The mountains of Norway are remakable for their extent, their height, and the torrents of water that guſh from their declivities. They cover the greater part of the country, and ſtrike a ſtranger with terror. The roads over theſe mountains are equally terrible and dangerous, there being often no other path than what is formed by an ill-ſecured wooden bridge, thrown over a breach in a frightful precipice or roaring cataract. Theſe roads wind in ſuch a manner, as to render the paſſage over the mountain Hardangerfield, about ſeventy Engliſh miles, extremely dangerous. The ſame may be obſerved

obſerved of that over Filefield, which is about fifty miles, and the poſt road. To prevent travellers from being loſt or bewildered, the way is pointed out by poſts, fixed at the diſtance of two hundred paces from each other; and on Filefield are two houſes furniſhed with fire, light, and kitchen utenſils, at the public expence, for the convenience of thoſe who are obliged to paſs along this dreadful road.

There are ſeveral large rivers in Norway, but none that are navigable farther than their mouth for ſhips of any conſiderable burthen, on account of the cataracts or waterfals occaſioned by the intervening rocks and cliffs. They are, however, of the greateſt uſe to the inhabitants for conveying their timber from the mountains to the ſea-ports, as well as driving their mills. The lakes are not remarkably large, but many of them very deep. We may reckon all theſe among the curioſities of Norway; and add to theſe it's fathomleſs caverns, and it's rapid whirlpools, eſpecially that prodigious one, the Maelſtrom, on it's weſtern coaſt.

239. *Commerce, Language, &c.*] The exports of Norway conſiſt chiefly of the natural productions of the country, as timber, copper, iron, marble, mill-ſtones, fiſh, furs, feathers, tallow, tar, oil, ſalt, alum, vitriol, &c. The Norwegians being chiefly employed in the mines, grazing and feeding cattle, felling wood, floating timber, burning charcoal, extracting tar from the roots of felled trees, hunting, ſhooting, and bird-catching; their imports conſiſt of many of the luxuries, and moſt of the neceſſaries, of life.

They profeſs Lutheriſm, and alſo ſpeak the ſame language that is uſed in Denmark; but their original tongue is that of Iceland.

240. *Farro Iſles.*] The Farro iſlands receive their name from their being in a cluſter ſo cloſe together, that the inhabitants ferry over from one iſland to another. They are ſituated in the northern ocean, in ſixty-four deg. of north latitude, and ſeven deg. of weſt longitude. They are twenty-four in number, and the whole cluſter extends about ſixty miles in length and forty in breadth. The inhabitants live chiefly by fiſhing, and add hardly any thing to the revenues of Denmark.

241. *Iceland.*] Iceland, ſituated in the Northern or Atlantic Ocean, is about ſeven hundred and twenty-ſix miles in length, from eaſt to weſt, and three hundred from north to ſouth. It lies between ſixty-three and ſixty-eight deg. of north latitude, and between fourteen and twenty-nine deg. of weſt longitude; and, from it's inſular ſituation, enjoys a milder temperature of climate than the ſame latitude on the continent experiences. The face of the country is very mountainous, and on the ſouthern coaſts are iſlands and rocks, where ſea-fowls build in great quanties; moſt kinds of wild fowl abound in Iceland, and the ſurrounding ſea yields plenty of fiſh. The country is well watered with large rivers which flow from the mountains and large lakes, beſides innumerable rivulets and ſtreams. In ſome places there are chalybeate ſprings, and in many parts of the iſland boiling-hot ſpouting water ſprings, of which the moſt remarkable and the largeſt is Geyſer, not far from Skalholt; in approaching towards it a tremendous noiſe is heard like the ruſhing of a torrent precipitating itſelf from ſtupendous rocks. The water iſſues from this ſpring ſeveral times in one day,

but

but always by ſtarts, and after certain intervals; and ſome travellers have affirmed, that it riſes to the height of ſixty fathoms: it is certain, however, that it is thrown up much higher at ſome times than at others, but it's elevation ſeldom falls ſhort of ninety feet.

The burning mountains in this country we may conſider as the latent cauſe of the boiling ſprings; of theſe the moſt remarkable are the Hecla, Kotlegau and Oraiſe. The eruptions of theſe have at different times occaſioned terrible devaſtations, deluging the country with water, convulſing it with earthquakes, heaving up new iſlands in the ſea, or pouring forth clouds of aſhes, ſmoke, and ſand, in ſuch quantities as to eclipſe the light of the ſun, and ſcattering the ruins all over the iſland; yet the inhabitants are ſo attached to their native country, they conſider themſelves as the happieſt people on earth. They attend to their fiſhing and the breeding of cattle. This iſland produces exceeding fine paſture, which feeds large herds in ſummer, and affords hay ſufficient for ſuſtenance in winter. They have kitchen herbs, roots, and ſome fruit trees, beſides many eſculent plants which grow wild on the rocks, and in many families ſupply the place of flour and meal. In ſome parts of the iſland a ſpecies of ſmall wheat grows ſpontaneouſly, and they reduce it to powder, by parching it over the fire, and then pounding it in mortars. Their total neglect of agriculture has been imagined to have been one of the conſequences of a dreadful plague which raged there in the fourteenth century, and ſwept away moſt of the inhabitants: the few that eſcaped to tell the melancholy tale, had found refuge in the mountains where the contagion did not reach. The ſame terrible diſeaſe extended it's baneful influence to Denmark, Norway, and Sweden; where ſuch multitudes died, that none could be ſpared to recruit this ruined colony.

The entire commerce of Iceland is monopolized by a Daniſh company. The exports conſiſt of cured proviſions, butter, tallow, oil, wool, ſkins, furs, down and feathers. The imports are brandy, wine, ſalt, linen, timber, tobacco, bread, hardware, &c.

The revenue which the king of Denmark draws from this country amounts to 30,000 crowns per annum.

The inhabitants are deſcended from the ancient Scythians, a branch of the Celtes, and the iſland itſelf made formerly a part of the empire of Scandinavia. During this early period of time, Iceland was full of people; here the chief miniſters of their religion reſided; and here the celebrated Edda, or book of Celtic Mythology, was either compoſed or preſerved; and ſo pure has their language been handed down from one generation to another, that the Icelanders are capable of explaining their moſt ancient traditional hiſtories.

242. *Greenlands.*] Eaſt and Weſt Greenland form the northern boundary of the King of Denmark's dominions, and are, indeed, the limits of all the diſcoveries hitherto made in that part of the globe.

Eaſt Greenland lies in north latitude higher than ſeventy-ſix deg. and between ten and eleven deg. of eaſt longitude. It is deſtitute of people, except a few convicts tranſported thither from Ruſſia, who are obliged to winter in this inhoſpitable clime, and to labour for their

liberty

liberty in procuring ſkins, furs, tuſks of morſe, &c. for the empreſs or Czarina.

Weſt Greenland lies in north latitude higher than ſixty deg. and between five and fifty deg. of weſt longitude, and is peopled though but thinly.

Through the labours of Daniſh miſſionaries, and more eſpecially of thoſe of the Moravians, or Brethren's Unity, ſeveral congregations have been gathered from the groſs ſuperſtitions of the country to the profeſſion of Chriſtianity. Their language reſembles that of the Indians of North America; they have a great number of long polyſyllables, and excel in poetry. (See art. 145.)

The Copenhagen company engroſs the little trade of this country, and give cloths, cutlery, and various domeſtic utenſils in copper, braſs, and tin, for whale-blubber, furs, &c.

SECTION XXVIII.

Sweden.

Sweden, including the greateſt part of Scandinavia, is ſituated from fifty-five deg. twenty min. to ſixty-nine deg. thirty min. north latitude, and between the twelfth and thirtieth of eaſt longitude. It is bounded on the ſouth by the Baltic, the ſound and the Cattegate, or Schagger-rack ſea; by Daniſh Lapland on the North; by Ruſſia on te eaſt; and by the mountains of Norway on the weſt.

Such a vaſt tract of country may naturally be ſuppoſed to contain a great number of inhabitants; but theſe bear a very ſmall proportion to the extent of Sweden, great part of it being rendered uninhabitable by ſeas, lakes, woods, mountains, and marſhes.

243. *Diviſions.*] This kingdom is divided into ſeven parts or provinces, and theſe are again ſubdivided as in the following ſynopſis,

Provinces.	*Subdiviſions.*	*Principal Towns.*
1. Sweden, properly ſo called, lying between Norway on the weſt and the Gulph of Bothnia; is divided into eleven parts, viz.	Uplandia.	Stockholm, Upſal.
	Sudermania.	Nickopen.
	Weſtmania;	Aroſen.
	Nericia.	Orebio.
	Geſtricia.	Geval.
	Helſingia.	Hadſwickwalt.
	Dalecarlia.	Hedemore.
	Medelpadia.	Setanger.
	Angermania.	Hernoſand.
	Jemtia.	Uma, Luta.
	Weſt Bothnia.	Piſtoia, Torne.

Provinces.	*Subdivisions.*	*Principal Towns.*
2. Gothnia or Gothland, on the south side of Swedeland, into three parts, viz.	E. Gothland.	Norkoping and Calmar.
	Smalandia.	
	Isle of Oeland.	Barkholm.
	W. Gothland.	Gottenburg.
	Vermeland.	
	Dalia.	
3. Livonia on the south of Finland Gulph.	Estonia,	Revel, Narva.
	Letten, or Letitia.	Riga.
4. Ingria, on the north east of Livonia.	Ingria, proper.	Oresçal or Noteberg
	Ingermania.	Caperio.
	Soluska.	Juanegrod.
5. Finland, on the east side of the Gulph of Bothnia.	Finland, proper,	Abo.
	Nylandia.	Helsingfordia.
	Carelia.	Wyburg.
	Kexholm.	Kexholm.
	Savolaxia.	Kosnipe.
	Tavastin.	Javastus.
	Cajunia.	Cajeneberge.
6. Swedish Lapland, in the northern part of the country.	Anjermania-Lapmark	Aocsalbo.
	Pitha-Lapmark.	Pitha
	Uma-Lapmark.	Uma.
	Lula-Lapmark.	Lula.
	Tornea-Lapmark.	Tornea.
	Kimi-Lapmark.	Kimi.

7. The islands of Gothland, Oeland, Aland, Hogland and Rugen.

The provinces of Livonia and Ingria, with Kexholm and Carelia, in Finland, and the islands of Dago and Oesel, are under the dominion of Russia.

244. *Climate and Produce.*] The natural history of Sweden, both as to climate, animals, vegetables, and minerals, is much the same with that of Norway, but the inhabitants appear to be more advanced in arts. Under the direction of the colleges established for the improvement of agriculture, and encouraged by the example of persons in affluent circumstances, the peasants have at length, in a great measure, corrected the natural sterility of their country; and they now in favourable seasons, raise grain sufficient to supply the wants of the inhabitants. The fields in summer are covered with a beautiful verdure, enamelled with flowers, and produce great quantities of currants, rasberries, strawberries, and other small fruit. Ostrogothia is the most fertile province in the kingdom, and bears large crops of rye, wheat, barley, oats, beans, and peas. If the wheat were sown in the autumn, as it generally is in England, there might be a danger of the grain being destroyed in the long piercing winter; but the method is different in Sweden: the vegetation is there so rapid, that the corn is ripe, particularly in the northern parts, in eight or ten weeks after it is sown; and the soil is so meliorated by the frost and coat of snow during

ing

ing the winter, that the land is fit to receive the ſeed almoſt as ſoon as the cold weather is over.

245. *Exports and Manufactures.*] The produce of their mines is various, but the metals are principally ſilver, copper, and iron. Their manufactures are all of them but lately erected; even that of iron, the chief ſupport of this country, was introduced only in the ſixteenth century. Before that time the Swedes ſent their iron-ore to the Hanſe towns, and brought it back again manufactured into utenſils; but they have now founderies, forges, wire, and flatting mills, &c. the other arts and manufactures, which are common to Europe, they alſo carry on, as ſilks, cloths, paper, porcelain, and the chemical preparations of alum, ſugar, ſoap, ſalt, &c. their woollen manufactures are particularly excellent. Vaſt quantities of copper, braſs, and ſteel, are alſo now wrought in this country. To their exports of metals, timber, tar, hemp, flax, hides, peltry, furs, fiſh, &c. they alſo add ſhips compleatly fitted out for ſea.

246. *Religious Profeſſion, Language.*] The national profeſſion of religion is the ſame in Sweden as in Denmark and Norway. There is ſuch an affinity between the Swediſh, Daniſh, and Norwegian tongues, which are ſo many dialects of the Teutonic, that the inhabitants of the three kingdoms can perfectly underſtand one another. From many Runic inſcriptions, ſtill to be ſeen near the ancient depoſitories of the dead, it is evident that the Swedes made uſe of that character in the ages of Pagan idolatry.

247. *Learning, Schools.*] Several branches of learning have been cultivated of late years in this country. Thoſe in the higher ranks are generally converſant in polile literature. The natural philoſopher, Haſelquiſt, who died as he was making diſcoveries in the oriental regions. That able civilian, politican, and hiſtorian, Puffendorf, was a native of Sweden, as well as the late Linnæus, who, to the deepeſt reſearches in ſome branches of natural philoſophy, united the utmoſt ſyſtematic preciſion. The paſſion of Chriſtina for literature, her munificence to the learned, and her own acquirements in ſcience, are ſufficiently known. The fine arts at this time were particularly patronized by the government, and ſeveral learned Swedes in other kingdoms bear great reputation in ſcience.

The manuſcripts of that eminent and ſingular man, Em. Swedenborg, author to more than ſixty quarto volumes, are ſtill preſerved as a great curioſity in the royal academy of ſciences at Stockholm.

The univerſities of Sweden are thoſe of Upſal, Abo, and Lund; that of Upſal was inſtituted four hundred years ago, and being patronized by ſeveral ſucceſſive monarchs, has gained particular celebrity; but theſe of Abo and Lund are not ſo well endowed, nor ſo flouriſhing. Seminaries for the education of youth are eſtabliſhed in different towns; and every dioceſe is provided with a free-ſchool, in which boys are qualified for the univerſity. The Royal Patriotic Society has rendered very eminent ſervices to the country; and, beſides this inſtitution, there are, at Stockholm, academies of ſciences, of painting, ſculpture, and mathematics. Several volumes of memoirs have been publiſhed by the members of theſe inſtitutions, which have obtained a

favourable reception abroad; however, the greateſt literary curioſity, in this country, is a manuſcript copy of a tranſlation of the writings of the Evangeliſts into Gothic, by Ulphila, biſhop of Thrace, above one thouſand three hundred years old.

248. *Hiſtory, Government.*] In 1387, Margaret, Queen of Denmark and Norway, was choſen queen of Sweden. It remained ſubject to Denmark till 1523, when Guſtavus Vaſſa aſſerted it's independency. After this the Swedes enjoyed conſiderable freedom, and the king was limited in every exerciſe of government, and even in the education of his own children; but lately the conſtitution has been greatly changed; by the king's arrogating the government to himſelf; the cataſtrophe, however, of this unhappy and daring man, who in one day, by help of his army, completely overthrew the liberties of his country, was ſimilar to that of Cæſar, the uſurper, at Rome.

SECTION XXIX.

Muſcovy, or Ruſſia.

The empire of Ruſſia is the largeſt upon the whole globe, it is greater than all the reſt of Europe, than the Roman empire in the zenith of it's power, or the empire of Darius ſubdued by Alexander; extended in length from the Baltic on the weſt, to within a few miles of America on the eaſt, upwards of two thouſand leagues; and above eight hundred in it's greateſt breadth, from north to ſouth. It's boundaries on the weſt, are Sweden and the Baltic; on the eaſt, China, and that part of the Pacific which ſeparates Aſia from America; on the North, by the Frozen Ocean, and the impenetrable Arctic Region, and on the ſouth it has Pruſſian, Poliſh, Turkiſh, Perſian, Indian, and Tartarian nations. In length, from the Iſle of Dagho as far as it's moſt diſtant eaſtern limits, it contains very near a hundred and ſeventy degrees; ſo that when it is noonday in the weſt, it is very near midnight in the eaſtern parts of this empire. In breadth, it ſtretches three thouſand werſts from ſouth to north, which makes eight hundred leagues. On the ſouth of this extenſive empire, the longeſt day is not ſixteen hours; on the north it ſtretches out to the length of three months.

249. *Climate, Inhabitants, Religious Profeſſions.*] In ſo extenſive a tract of country the ſoils are extremely various. Beyond the 60th degree of latitude, corn ſcarcely ever arrives at maturity; and beyond the 70th hardly any ſpecies of fruit is produced; but in the middle provinces of the empire the ſoil is fruitful, the woods abound with a variety of animals, the plains are ſtocked with cattle, and the rivers teem with a variety of excellent fiſh. In the more ſouthern provinces,

Plate XIV

Engraved for Walker's Geography &c.

Engraved for Walkers Geography &c.

provinces, the climate is hot: and, where there is a ſufficient depth of ſoil, flowers and fruits arrive at great perfection, the earth is covered with verdure, and indicates a happy fertility. There ſeems hardly leſs variety among the inhabitants of this extenſive empire, which includes in itſelf numerous nations of Tartars, Kamtſchatdales, Samoiedes, Laplanders, &c. Far to the north, in ſome remote parts of this empire, they live in caverns, and are no more than four feet and a half high: the ancients had a confuſed idea of theſe people under the name of Troglodites, and Northern Pigmies, as they had of the Tartars under the name of Scythians; the languages of theſe widely-diſperſed people are different, and their manners are various; in ſome parts they are much given to roving and plunder; in others, their lives ſeem innocent and harmleſs; in ſome parts they give their attention to agriculture; in others they depend upon the productions of a fruitful, but uncultivated ſoil. Some of them, who do not meet in ſocieties, make but little, and it is even ſaid, no profeſſion of religion; others, that live in herds, or clans, offer up ſome of them, their oriſons perhaps to the principal objects of their wants, idolizing a ſheep's ſkin, becauſe they find nothing more uſeful than this animal; and others embrace the doctrines of the Greek church, which is the national profeſſion of Ruſſia: where, however, other ſocieties are tolerated and encouraged.

In a late account of Ruſſia, the following nations are enumerated, as comprehended in this great empire:

The Monguls,	Tſcouwaſches,	Kurilians,
Kalmucs,	Mordvines,	Kiſtim and Toulibet
Tartars,	Votiaks,	Tartars,
Samoiedes,	Terptyaireis,	Vergo Tomſkoi Tar-
Oſtiacs,	Tartars of Kaſan and	tars,
Burattians,	Orenburg,	Sayan Tartars,
Jakutans,	Of Tobolſk,	Touralinzes,
Tunguſians,	Of Tomſk,	Bougharians,
Voguls,	Of the Ob,	Baſchkirians,
Laplanders,	Nogayan Tartars,	Meſtſceraiks,
Finns,	Tſchoulym Tartars,	Barabinzes,
Lettonians,	Katſchintz Tartars,	Kirkguiſians,
Eſtouians,	Teleutes,	Beltirians,
Liefſs,	Abinzes,	Yakoutes,
Ingrians,	Biryouſſes,	Kamtſchatdales,
Tſcheremiſſes,	Coſſacs,	

and various others, ſome of which muſt be conſidered rather as diſtinct tribes than as different nations. (See art. 131.)

250. *Diviſions.*] Muſcovy, or the European part of Ruſſia, beſides the territories wreſted from Poland, comprehends the following provinces, which may be divided into northern, middle, eaſtern, weſtern, and ſouthern.

Provinces.	*Chief Towns.*
NORTHERN.	
Lapland,	Kola.
Samoieda,	Golatina.
Bellamornſkoy,	Kemi.
Meſeen,	Meſeen.
Dwina,	Archangel.
Syrianes,	Kangorod.
Permia,	Iſma.
Rubeninſki,	Kargapol.
Belacſeda,	Vitegre.
MIDDLE.	
Pereſlaf,	Razenſkoi.
Belozero,	Belozero.
Wologda,	Wologda.
Jereſlaf,	Jereſlaf.
Twoer,	Tweer.
Moſcow,	Moſcow.
Belgorod,	Woronetz, or Veroneſe.
EASTERN.	
Bulgar,	Bulgar.
Kanſan,	Kanſan.
Lit Novogorod,	Niſe-Novogorod.
Don Caſſacks,	Donetſkoi.

Provinces.	*Chief Towns.*
WESTERN.	
Gr. Novogorod,	Novogorod.
Ruſ. Finland,	Wyburg.
Kexholm,	Kexholm.
Karelia,	Notteburg.
Ingria,	Peterſburg.
SOUTHERN.	
Livonia,	Riga, Narva, Revel, Dorpat, Pernaw, Pliſkow.
Smolenſko,	Smolenſko.
Zernigof,	Zernigof.
Seefsk,	Seefsk.
Ukrain, or the Country of the old Coſſacks.	Kiof, or Kiow.

251. *Produce, Manufactures, Commerce.*] The natural hiſtory of this country is much the ſame with that of Scandinavia both as to animal, vegetable, and mineral productions, and climate and ſoil; and within the preſent century their amazing improvements in ſciences and arts have enabled them to avail themſelves of their natural advantages, and become, among their neighbours, a great commercial people. Peter the Great, though a tyrant, may be accounted the political father of this country. Patient of fatigue, he travelled and laboured in other countries to acquire their improvements, and then, with determinate ſeverity, impoſed them upon his rude and uncultivated ſubjects at home, effecting a change in his empire, which aſtoniſhed the world, and procured him the epithet of the Great.

To all the articles of manufacture and commerce which they have in common with Sweden and Denmark, the Ruſſians add the coſtly commodities of the Eaſt, as ſilk, cotton, teas, gold, &c. Theſe they receive by caravans from China, and from India and Perſia, by way of the Caſpian Sea.

252. *Mountains, Foreſts, Rivers, Lakes, Canals.*] The Zimnopoias are the principal mountains of Ruſſia, they are ſuppoſed to be the celebrated Montes Riphæi of the ancients; they are remarkable both for their amazing height and the perpetual ſnows that cover their ſummits: but, beſides theſe, there is a vaſt variety of others, ſome forming

extenſive chains, and others ſcattered ſingly in different parts of the country.

Foreſts abound in this extenſive country; in many places prodigious tracts of land form one continued foreſt, producing immenſe quantities of timber, pitch, tar, and turpentine.

Few countries exhibit more or larger rivers than Ruſſia, but the principal are the Wolga, the Don, or Tanais, the Boriſthenes, or Dnieper, and the Dwina. The lakes are alſo numerous, but the moſt remarkable are thoſe of Ladoga and Onega. From lake to lake, and from river to river, the Czar Peter planned extenſive and ſpacious canals, ſome of theſe he opened, with incredible labour and expence, for ſeveral hundreds of miles; others he did not live to ſee completed: they have, however, ſince his day been carried into execution.

253. *Language, Learning, Moſcow, Peterſburg.*] The Sclavonian language forms the baſis of that of Ruſſia; but the latter is enriched with many words from the Greek. The alphabet conſiſts of forty-two characters, principally Greek, as they were written in the ninth century; but as this did not expreſs every particular ſound, recourſe was had to ſeveral Hebrew letters, and ſome arbitrary ſigns were invented. Different dialects however prevail in different provinces, the principal of which are thoſe of Muſcovy, Novogorod, and Archangel; and thoſe in higher ranks generally ſpeak French and High Dutch, while their prieſts ſpeak the modern Greek.

The Czar Peter, who may be ſaid to have firſt enrolled his country among the poliſhed nations of Europe, was not inattentive, among his other labours, to literature and ſcience: he erected ſeveral academies, and other ſeminaries of learning in various parts of his extended dominions: he founded no leſs than three academies in Moſcow, one for claſſical learning, one for mathematics, and the other for navigation and aſtronomy. This city, long the capital of the empire, and the centre of the Ruſſian dominions, before they extended themſelves on the ſide of China and Perſia, ſtands in the middle of a large, beautiful, and fertile plain, on the Moſlea, and on two ſmaller rivers, which unite their ſtreams with the Occa, and diſcharge themſelves into the Wolga. In the thirteenth century it was no more than a cluſter of cottages, the inhabitants wretchedly groaning under oppreſſion from the race of Jenghiz-Khan.

At Peterſburgh he founded an univerſity and four academies: the firſt is for the ſciences and belles-lettres, the ſecond for navigation, the third for dead languages, and the fourth for tactics. The Petropolitan Society have publiſhed ſeveral volumes of papers, which have been well received by the literati of Europe, eſpecially thoſe on mathematical, aſtronomical, and philoſophical ſubjects.

But the Czar not only founded the academies of Peterſburgh but the city itſelf, and from him it took it's name. It is ſituated on the gulph of Kronſtadt, in the midſt of nine branches of rivers, by which it's different quarters are divided. The rivers are branched out into ſeven canals, which waſh the walls of one of the imperial palaces, of the admiralty, of the dock-yard for the gallies, and of ſeveral manufactories. There was nothing of all this in 1702, it being then an

impaſſable moraſs; and in 1703 there were only a few fiſhermen's huts, here. But Peter ſaw the benefit that muſt reſult from a city built on this ſpot, and accordingly employed above thirty thouſand men for ſeveral years in driving piles, and laying the foundation of this celebrated place.

254. *Hiſtory, Government.*] In 1058 the Poles conquered Ruſſia, but it cannot be aſcertained how long they kept poſſeſſion of it. About 1200 it was invaded by Batu, Khan of the Monguls; theſe people held it in ſubjection in a great meaſure till 1540, when John Baſilowitz completely aſſerted it's independency. This prince greatly enlarged his dominions, and about the middle of the ſixteenth century the Ruſſians diſcovered and reduced the vaſt country of Siberia. Their government is monarchical.

SECTION XXX.

Poland.

Before it's late diſmemberment, Poland, (anciently called Sarmatia) with the annexed duchy of Lithuania, was bounded on the north by Livonia, Muſcovy, and the Baltic Sea; on the eaſt by Muſcovy; on the ſouth by Hungary, Turkey, and Little Tartary; and on the Weſt by Germany; extending from forty-ſeven deg. forty min. to fifty-ſix deg. thirty min. north latitude; and between ſixteen and thirty-four deg. eaſt longitude.

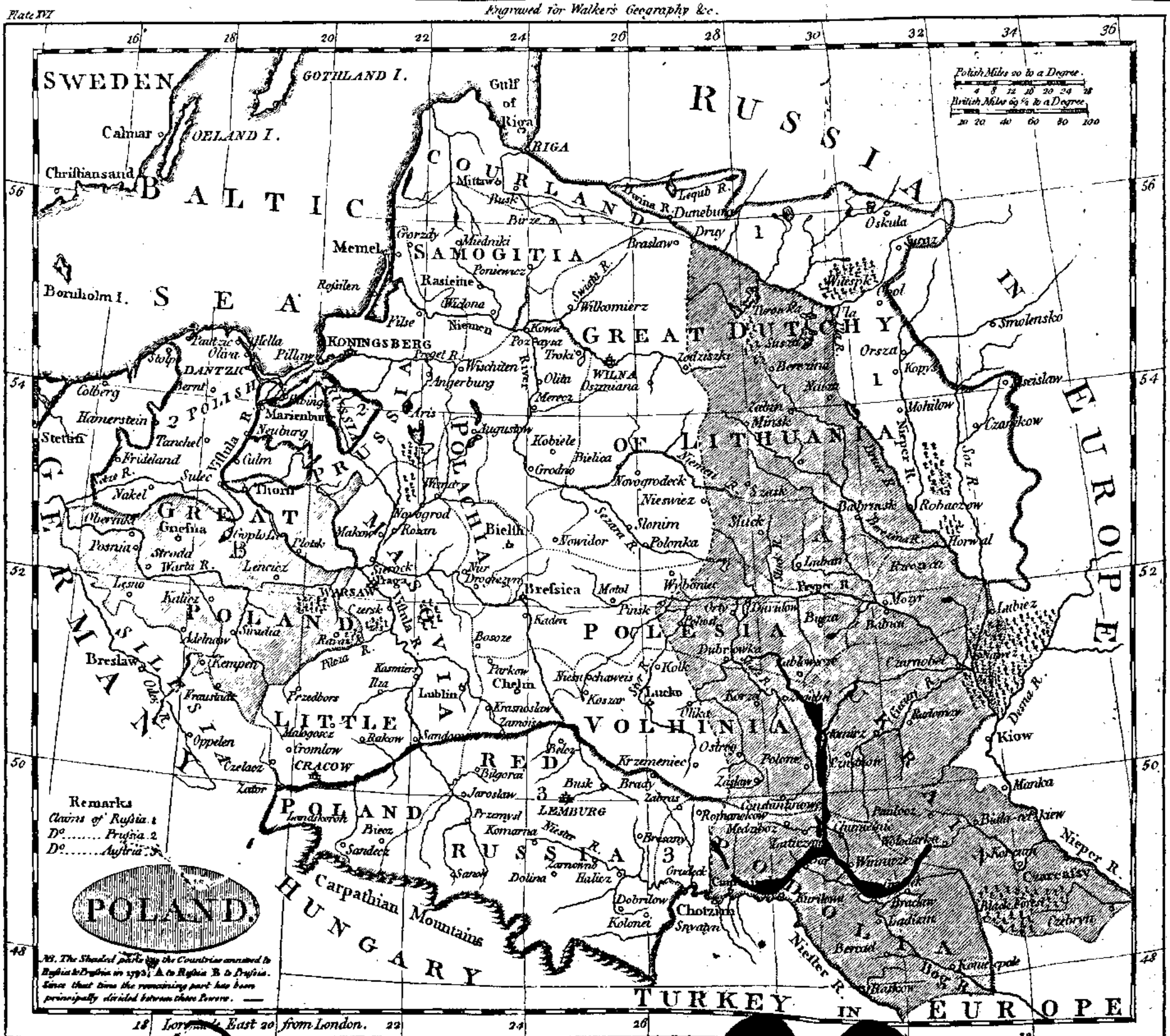
255. *Diviſions.*] It has been divided into the provinces of Great and Little Poland, Poliſh Pruſſia, Samogitia, Courland, Lithuania, Maſovia, Podolachia, Poleſia, Red Ruſſia, Podolia, and Volhinia; and again ſubdivided into palatinates, as in the following table:

Palatinates.	*Chief Towns.*	*Palatinates.*	*Chief Towns.*
GREAT POLAND on the Weſt.		LITHUANIA North-Eaſt.	
Poſnania,	Poſna.	Vilna,	Vilna.
Kalitz,	Kalitz Gneſna.	Braſlaw,	Braſlaw.
Brſeſt,	Brſeſt.	Polotſk,	Polotſk.
Wladiſlaw,	Wladiſlaw.	Vipteſk,	Vipteſk.
Dobrzin,	Dobrzin.	Troki,	Troki, Grodno.
Plotzko,	Plotzko.	Minſk,	Minſk.
Rawa,	Rawa.	Miſciſlaff,	Miſciſlaff.
Lenzits,	Lenzits.	Novogrodek,	Novogrodek.
Sieradz,	Sieradz.	WARSOVIA, or MASSOVIA.	
Inowlodz,	Inowlodz.		Warſaw.
LITTLE POLAND on the Weſt.		Czerſk,	Czerſk.
Cracow,	Cracow.		Novogorod.
Sandomir,	Sandomir.	PODOLACHIA in the Middle.	
Lublin,	Lublin.	Bielſk,	Bielſk.

POLISH

Plate XVI

Engraved for Walker's Geography &c.



POLISH PRUSSIA North-West.	
Dantzic.	
Elbin.	
Marienburg.	
Culm.	
Thorn.	
SAMOGITIA.	
Rofieme.	
Miedniki.	
COURLAND North.	
Courland Proper,	Goldingen.
Semigallia,	Mittaw.
POLESIA in the Middle.	
Brfetfk,	Brfetfk.
RED RUSSIA South-West.	
Chelm,	Chelm.
Belz,	Belz.
Lemburg,	Lemburg.
PODOLIA South-East.	
Upper Podolia,	Carminiec.
Lower Podolia,	Bratzlaw.
VOLHINIA South-East.	
Upper Volhinia,	Luko.
Lower Volhinia,	Bialgorod.

256. *Air and Soil.*] Poland is generally a champaign country; the air is moſtly temperate; in the northern parts it is cold, but exceeding healthy. The ſoil in general is extremely rich. The earth is of various kinds, colours, and properties; ſome being excellent for the potter's uſe, furniſhing all Poland with earthen-ware; while others ſupply the pipe-makers and other artificers, with clays of different ſorts.

257. *Vegetables, Animals, and Foſſils.*] This country is extremely fruitful, producing vaſt quantities of corn, and the paſtures, particularly in Podolia, are ſo rich, that the height of the graſs is often ſuch as to conceal the cattle that are grazing from the ſight of the paſſengers. In many places there are vines, whoſe grapes are agreeable to the taſte, but the wines made from them uſually prove ſharp. It is ſaid, that, in May and June, the inhabitants gather a ſort of manna, which falls on the graſs during the night; they eſteem it a great delicacy, and have various ways of dreſſing it. This ſeems rather unaccountable; but as the fifth and ſixth months are the ſeaſon when plants are copiouſly ſupplied with juices, perhaps it is theſe, that oozing through the pores of the herbs, are concreted on their ſurface by the cold and dew of the night, and form the manna, rather than any extraneous or foreign matter derived from the atmoſphere.

Horſes, aſſes, and oxen, diſtinguiſhed by the names of uri, and buffaloes, wolves, bears, elks, bohacks, foxes, hares, &c. run wild in the foreſts of Poland. Here are alſo birds and fiſhes of various kinds.

Here are mines of gold, ſilver, copper, lead, iron, pit-coal, vitriol, arſenic, marble of all colours, and ſtones of various kinds; but the moſt curious are their different ſorts of ſalt-mines.

258. *Mountains, Foreſts, Rivers, Lakes.*] The principal mountains of Poland are the Cropach, or Carpathian mountains, which form a craggy ridge, extending three hundred miles in length, ſeparating Poland from Hungary; theſe are covered with perpetual ſnows. In the palatinates of Cracow is a mountain called the Wonderful, covered with aromatic plants, flowers, oaks, and pines; full of metals and minerals; and abounding both in freſh and ſalt ſprings. Near the centre riſes, with a remarkable noiſe, a ſpring of clear water, the ebullition

ebullition of which is ſaid to be greater or leſs according to the increaſe or decreaſe of the moon.

Poland, the eaſtern part particularly, is remarkable for the extent of it's foreſts and woods.

The principal rivers are the Viſtula, or Weyſel; the Worta; the Neiſter, or Tyras; the Nieper, or Boriſthenes: the Niemen; the Bog, or Vagus; and the Dwina.

Of the few lakes in Poland, Gopto, or the White Lake, is the moſt remarkable, and is ſaid to turn the complexion of thoſe who waſh in it ſwarthy.

259. *Commerce and Manufactures.*] The little trade of Poland is principally carried on at Dantzic, which may be conſidered as the emporium of this country. The exports of Poland conſiſt of corn, honey, wax, hemp, flax, furs, timber, pot-aſhes, ſalt, ſalt-petre, brimſtone, vitriol, and quickſilver; and it's imports of wines, brandy, ſpices, wrought ſilks, cloths, ſtuffs, jewels, ſables, martens, and tin, ſteel and iron wares. The little manufactures of this country are ſome linen and woollen cloths, and a little hardware.

260. *Curioſities.*] The wonderful mountains and ſalt-mines, already mentioned, form the principal curioſities of Poland. The ſalt-mine of Wieliſka is the largeſt in the world, and has been wrought above 600 years. It is 743 feet below the ſurface, and is 1115 feet in breadth, and 6691 in length. The mine exhibits a ſpacious plain, with lofty vaulted roofs, ſupported by columns of ſalt which have been left ſtanding by the workmen. Here are many public lights continually burning for the general uſe, and the blaze of theſe, reflected from every part of the mine, which appears bright and clear as cryſtal, or tinged with all the beautiful colours of the rainbow, preſents the moſt dazzling proſpect. The eye is bewildered in the immenſe and glittering ſcene, which exceeds the moſt brilliant exhibitions of art, and all that has been fabled by the writers of romance. In various parts of this plain the huts of the miners and their families are erected, ſome ſtanding ſingle, and others in cluſters like villages. Theſe poor people have very little communication with the world above ground, and many hundreds of them are born and ſpend their lives here. Through the midſt of the plain, the great road paſſes to the mouth of the mine, and it is generally crowded with carriages bringing maſſes of ſalt, which look like prodigious gems. The drivers are generally very merry, and ſometimes make excurſions to the upper world, but the horſes, which are very numerous, when once let down, never ſee the day-light more. Through a great part of the ſalt-mine there runs a ſtream of freſh water, which ſhews that the mine, deep as it is, is yet not ſo low as the baſe of the mountains which contain it, as the water in that caſe could not find egreſs.

We may reckon, as rarities, the grottos, or catacombs, under the mountains of Kiow, in the deſerts of Podolia, wherein are found a great number of human bodies perfectly preſerved, being neither ſo hard nor ſo black as the mummies of Egypt; ſome attribute this curioſity to the nature of the ſoil, which is a dry ſand. It has been reported, perhaps with truth, that wild men have been frequently found

found in the woods, and authors, in accounting for such phenomena, suppose them to have been left there when infants by their parents, whom the Tartars frequently obliged to flee from their habitations, and that these children, so exposed, have been nourished by the bears.

261. *Language, Learning, and Schools.*] The Polish language is a dialect of the Sclavonic, and, on account of the vast number of consonants it employs, is extremely harsh and unharmonious: however the Latin tongue is commonly spoken, even by those of inferior rank, though without the least regard to accent, quality, or purity of language. High Dutch and Russian are likewise understood in the provinces bordering on these respective countries.

The Polish universities are those of Cracow, Posnia, and Wilna. The first consists of eleven colleges, and has the supervisorship of fourteen grammar-schools dispersed through the city; the other two are not so eminent.

The nobility and the bulk of the nation are of the church of Rome, but here are a vast number of Protestants, and followers of the Greek church.

This country seems to have been very unpropitious to the growth of literature, though Copernicus, the great restorer of the true astronomy, as well as Vorstius, and some other learned men, were natives of Poland. The contempt which the nobility have ever shewn for learning, the vassalage of the lower classes, and the gloomy superstition which has pervaded all ranks of men, were circumstances which wonderfully retarded the progress of arts and sciences. Of late years they appeared, under an amiable and unassuming king, to be rising superior to these prejudices. The surrounding despots of Russia, Austria, and Prussia, saw the advances of the rising republic with jealousy, and combined together to crush it. As yet the poles are depressed by these perfidious and overbearing powers; but the Ottoman Porte, whose conduct towards them has been accounted just and honourable, the very reverse of that of their Christian neighbours, seem at present to be espousing their cause.

262. *History.*] Poland was the seat of the Vandals in ancient times. In 1396 Jagellon, Duke of Lithuania, by marrying Hedwiga, Queen of Poland, became king of this country. From that time Lithuania was held as a fief to Poland; and in 1501, Alexander, Duke of Lithuania, succeeding to the crown of Poland, the union of the two countries was confirmed, and they remained united till the late dismemberment.

SECTION XXXI.

Prussia.

Prussia, the country of the ancient Borussi, taken in a limited sense, is bounded on the north by part of Samogitia, on the south by Poland Proper and Masovia, on the east by part of Lithuania, and on the

the weſt by Poliſh Pruſſia and the Baltic; but, taken in it's full extent, this kingdom conſiſts of various territories deſſeminated over Germany, Poland, Swiſſerland, and the northern regions, partly derived from legal ſucceſſion, but by far the greater part from war, violence and uſurpation.

263. *Territories.*] The principal diviſions of which this monarchy is compoſed, are Ducal, now Regal Pruſſia, ſituated in Poland; Brandenburg, Pruſſian Pomerania, and Swediſh Pomerania, in Upper Saxony; Magdeburg and Halberſtadt, in Lower Saxony; Glatz, in Bohemia; Minden, Ravenſburg, Lingen, Cleves, Meurs, and Mark, in the duchy of Weſtphalia; Eaſt Frieſland, Lippe, Gulick, and Tacklenburgh, in the circle of Weſtphalia; the margraviate of Anſpach, in the circle of Franconia; Gelder, in the Netherlands; Neufchatel, in Swiſſerland; and part of Sileſia, and the countries lately wreſted from Poland.

264. *Climate, Soil, Animals, and Foſſils.*] In countries ſo various, and diſtricts ſo diſperſed, any general account of the air muſt be liable to many exceptions; however, upon the whole, it ſeems favourable to health. The ſoil is fruitful in corn and other commodities, nor is the country deficient in a proportionate number of animals common to the climate, ſuch as horſes, cows, ſheep, deer, bears, wolves, wild boars, and foxes; and the rivers and lakes are amply ſtored with fiſh.

There are not many mines in Pruſſia; a few, however, are found of copper and lead, and ſome of iron. Theſe afford materials for the employment of artiſts, but very little metal, in it's crude ſtate, is exported. The principal minerals found in this country are ſulphur, alum, nitre, and lapis calaminaris. Here are ſeveral quarries of ſtone, and ſome of ſlate; a ſpecies of marble has alſo been diſcovered in many of the mountains.

Several kinds of bitumen too are found here, but the principal is amber, of which Pruſſia has been conſidered as the native country. This celebrated bitumen, though originally generated in the earth, is found in plenty in the Baltic Sea, eſpecially near the ſea-ſhore of Sudwic, where it ſwims on the water, and is taken up by nets.

265. *Mountains, Foreſts, Rivers, and Lakes.*] There are not many remarkable mountains in Pruſſia. There is, however, a pretty extenſive chain on the frontiers of Poland, and ſeveral ſingle ones ſcattered through the different parts of the kingdom. There are ſeveral large and extenſive foreſts, which afford great quantities of fir and other excellent timber.

The principal rivers are the Viſtula, the Pregel, the Memel, or Mammel, the Paſſage, and the Elbe; they are all ſubject to inundations, whereby the country is often damaged. The lakes and canals afford great conveniences for tranſporting merchandize; and, for it's extent, the kingdom of Pruſſia has the moſt inland navigation of any other in Europe, the Netherlands excepted.

266. *Manufactures, Commerce.*] Under the politic adminiſtration of the late king, who ſeemed to have adopted the trueſt maxims of enriching himſelf, by beſtowing the means of affluence on his ſubjects, every art and manufacture daily improved and increaſed; and

thoſe

thoſe of glaſs, iron works, ſilk, cloth, camblet, linen, ſtockings, paper, powder, and copper and braſs, are particularly flouriſhing.

Being advantageouſly ſituated for trade, the extenſion of which is promoted by a college of commerce and navigation, Pruſſia carries on a conſiderable foreign traffic; but as it's imports are trifling, compared with it's exports, the balance of trade in it's favour is greater than that of any other European country.

If Frederick had been as juſt as he was politic, as humane as he was ambitious, he might have done much for the happineſs of mankind; but in his conduct towards thoſe who were not his ſubjects, we ſee the politician ſunk into a ſwindler or robber, the philoſopher into the worſt of tyrants, a kidnapper, a royal ſtealer of virgins. It may ſeem cowardly to trample on the paws of a dead lion, who, if he had been living, might have made one tremble with a ſhake of his mane: the fact is, that kings are generally ſo haughty and unjuſt, that the hiſtorian muſt be willing to be a martyr to the truth, that will record their actions, while living, with impartiality. Are there any kings in Europe whoſe hiſtory will bear the impartial eye? It may generally be ſaid, if the very bones of thoſe whom they have ſlain, if the thouſandth part of them were piled over the bodies of theſe royal deſtroyers of the human kind, they would be cruſhed to death by their prodigious weight. The diſpoſition of theſe men is not naturally different from that of other people, but their ſituation, ſo unfavourable to every good principle, and their education, ſo deſtructive of every tender feeling of humanity, have a tendency to darken their underſtanding, and to harden their hearts: and while we are ready to cenſure them for the enormity of their deeds, we ought not to forget, that of all the characters in ſociety, they are the moſt entitled to our pity; of all the ſituations in life theirs appears to be the moſt unhappy.

In the year 1771, the King of Pruſſia entered Great Poland with his troops, and carried off from that province 12,000 families in the courſe of a year: under the ſevereſt penalties, even of corporal puniſhment, he commanded the inhabitants to furniſh proviſions, horſes, &c. to his army for the ſpace of two whole years, and even to ſtock magazines in the country, and all this for baſe money; while they were forced to come and repurchaſe corn for their daily ſubſiſtence, at an advanced price, and with good money, the commiſſaries of the tyrant refuſing to take the ſame coin they had paid. And, having thus ſtripped the country of money and proviſions, his next attempt was to thin it ſtill more of it's inhabitants, in order to people his own country: he obliged every town and village to furniſh a certain number of marriageable girls, the parents to give, as a portion, a feather-bed, four pillows, a cow, two hogs, and three ducats in gold. And ſome of them were bound hand and foot, and carried off as criminals. The conduct of the preſent King of Pruſſia is too notorious to need detail.

267. *Curioſities.*] The amber-pits of Pruſſia form it's principal natural curioſities, and from theſe the king is ſaid to derive 26,000 dollars annually.

268. *Schools, Language, Religious Profeſſion.*] At Koningſberg is an univerſity, founded by the margrave, Albert, in the year 1544, and

and a college ſtyled the *Collegium Fredericianum*; and academies, or ſchools for the inſtruction of youth, are diſperſed throughout the kingdom. The language varies little from that of Poland.

Different profeſſions of religion are tolerated in Pruſſia, but the nationally eſtabliſhed ones are thoſe of Luther and Calvin.

209. *Hiſtory, Government.*] The Pruſſians, or Boruſſians, were not heard of as a people, till 1007, when they were governed by dukes of their own. After a ſucceſſion of bloody wars, they were conquered by the German knights of the Teutonic order in 1228. In 1454, the Poles ſubdued the weſtern part of it, and in 1525, the eaſtern part. In 1683, it became independent. It 1702, the dukes aſſumed the title of king; and the territories added to this country by the late king, are very conſiderable, as well as thoſe wreſted from the Poles both by him and his ſucceſſor. The conſtitution of Pruſſia is abſolute monarchy.

SECTION XXXII.

Germany, Bohemia, Hungary, &c.

Germany is bounded by the German Ocean, Denmark, and the Baltic on the north; by Poland, Hungary, and Bohemia on the eaſt; by Swiſſerland and the Alps on the ſouth; and by the dominions of France, and the Low Countries on the weſt: extending from forty-five deg. four min. to fifty-four deg. forty min. north latitude, and from ſix to nineteen deg. forty-five min. eaſt longitude. This country is the ſeat of a great empire, and of many dependent ſovereignties of different denominations, and under various modifications of government; it's affairs are blended with thoſe of the other nations of Europe, whoſe Germanic territories are neceſſarily exhibited in it's diviſions.

270. *Diviſions.*] In territories ſo numerous, and poſſeſſions ſo minute, where the dominions of a prince are ſometimes of leſs extent than an Engliſh manor, to attempt a particular deſcription of each would be tedious and perplexing; and the diviſions laid down, even by modern writers, are often uncertain and contradictory. Thoſe moſt generally received, and their riſe, are as follows: the German empire was formerly divided in two grand parts, the upper and the lower; but the Emperor Maximilian, grandfather and predeceſſor of Charles V. divided it into ten great circles; and this mode of diviſion was confirmed by the diet of Nuremburg, in 1552. However, as the circle of Burgundy, or the ſeventeen provinces of the Low Countries, has been detached from the empire, the circles of Germany

Plate XVII

Engraved for Walker's Geography &c.

Longitude East from London.

many are only nine; three lie in the north, three in the middle, and three in the ſouth.

The circles are ſubdivided into principalities, duchies, marquiſates, electorates, palatinates, counties, baronies, abbies, biſhopries, &c.

Circles.	*Chief Towns.*
UPPER SAXONY.	Stetin, Stralſund, Stendel, Berlin, Potſdam, Francfort, Cuſtrin, Wittenburg, Bautzen, Gorlits, Dreſden, Miſſein, Erfurt, Meiningen, Zeits, Altenburg, Weimar, Gotha, Eiſnach, Saalfield, Schwartſburgh, Belchingen, Manſfield, Hall, Naumberg, Stolberg, Northhauſen, Deſſau, Zerbſt, Bernberg, Kothen, Hall, Plowen, Merſberg.
LOWER SAXONY.	Keil, Gottorp, Meldorp, Glucſtat, Hamburg, Lubeck, Lawenburg, Brunſwick, Wolfenbutle, Rheinſteen, Blachenberg, Hanover, Grubbenhagen, Gottingen, Lunenburg, Zell, Bremen, Verden, Swerin, Guſtrow, Hildeſheim, Magdeburg, Halberſtat.
WESTPHALIA.	Embden, Oldenburg, Delmonhurſt, Hoye, Diepholt, Munſter, Paderborn, Oſnaburgh, Lippe, Minden, Ravenſburg, Arenſburg, Tecklenburg, Ritberg, Schawenburg, Cleef, Duſſeldorf, Juliers, Aix, Ham, Liege, Huy, Bentheim, Steinfort.
UPPER RHINE.	Caſſel, Marpurg, Darmſtadt, Homberg, Rhinefield, Wonfield, Dillenburg, Diets, Kerberg, Siegen, Idſtein, Wiſbaden, Bielſtein, Otweiler, Uſingen, Frankfort, Erpach, Spire, Deux Ponts, Catzenelbogen, Waldec, Solms, Hanau, Eyſenberg, Sayn Wied, Witgenſtein, Hatzfield, Weſterberg, Fuld, Hirchfield,
LOWER RHINE.	Heidelburg, Philipſburg, Manheim, Frankendal, Cologn, Bon, Mentz, Aſchaffenburg, Triers, Worms, Simmeren, Rhinegraveſtein, Meurs, Veldents, Creutznach, Leymingin.
FRANCONIA.	Wurtſburg, Bamberg, Aichſtadt, Cullenbach, Onſpach, Henneburg, Coberg, Hildburghauſen, Nuremburg, Mergentheim, Reineck, Bareith, Papenheim, Wertheim, Caſſel, Schwartzenburg, Holack.
AUSTRIA.	Vienna, Graz, Cilley, Clagenfurt, Lavemund, Laubach, Zerknits, Trieſte, St. Veits, Gorits, Inſpruck, Brixen, Trent.
BAVARIA.	Munick, Landſhut, Ingolſtadt, Donawart, Ratiſbon, Amberg, Saltſbach, Frieſſengen, Paſſau, Newburg, Saltſburg, Hallen.

SUABIA,

Circles.	*Chief Towns.*
SUABIA.	Stutguard, Tubingen, Hailbron, Dourlach, Weiler, Augſburg, Hockſtet, Bleinheim, Ulm, Conſtance, Mindelheim, Furſtemburg, Hohenzollern, Oeting, Koningſeck, Gemund, Waldburg, Limpurg, Kempten, Buchaw, Lindau, Nordlingen, Memminghem, Rotwell, Rheinfield Lauffenburg, Burgaw, Friburgh, Briſac.

271. *Climate.*] Though Germany, taken in a literal ſenſe, may be ſaid to enjoy a temperate air, and an agreeable climate; with reſpect to the degrees of it's warmth, purity, and ſalubrity, they are of courſe various, according to the ſituation of the country, to the north or to the ſouth, and to or from the ſea. The champaign tracts have a different air from that of the mountainous; and in a deep, marſhy, and moiſt ſoil, it varies from that of elevated, dry, and ſandy ſituations. Hence fruits and grain arrive at an earlier maturity, and come to greater perfection in ſome places than in others.

272. *Vegetables.*] The cultivated parts of Germany are remarkable for their fertility; for though theſe form only a ſmall part of the country, yet proviſions are cheaper, and in greater plenty, than in moſt other countries in Europe. The Germans likewiſe cultivate hops, aniſe, cummin, flax, hemp, tobacco, madder, woad, ſaffron, and the utmoſt variety of pot-herbs, ſallads, and roots. Their moſt valuable fruits are apples, pears, cherries, plumbs, cheſnuts, almonds, olives, medlars, figs, peaches, apricots, oranges, lemons, citrons, grapes, nuts, filberts, walnuts, and almoſt every other ſpecies common to the French or Italian climates. The Rheniſh and Moſelle wines are celebrated over all Europe for their peculiar brightneſs, as well as for their deterſive quality, which renders them more beneficial in ſome diſorders than any other medicinal aid.

273. *Animals.*] The domeſtic animals of Germany are the ſame as in other European countries, but perhaps more numerous than in any other. The wild beaſts are chiefly deer, (of which there are ſeven or eight different ſpecies) boars, hares, and rabbits; and in ſome places, bears, wolves, lynxes, foxes, wild-cats, badgers, martins, chamois, wild-goats, &c.

Of moſt ſpecies of tame fowl, Germany contains very great abundance; and among the wild inhabitants of the air, common to this climate, we may enumerate ſwans, buſtards, pheaſants, wood-cocks, partridges, grouſe, ſnipes, larks, field-fares, ortolans, quails, wild-geeſe, ducks, ſpoon-bills, ſtorks, falcons, herons, hawks, and ſinging-birds. And their rivers and lakes abound with various kinds of fiſh.

274. *Foſſils, Baths, and Mineral Waters.*] Mines of ſilver, copper, lead, iron, quickſilver, ſalts, ſulphur, nitre, and vitriol, are found in many parts of Germany, eſpecially in the circle of Auſtria. Coal-pits are diſſeminated over almoſt every circle. Here are carbuncles, amethyſts, jaſper, ſapphire, agates, turquois ſtones,

and the fineſt rubies; and alſo quarries of marble, ſlate, chalk, oker, alum, and amber.

Germany is celebrated for it's mineral ſprings and baths; the moſt remarkable are thoſe of Aix-la-Chapelle, Spa, Pyrmont, Embs, Wiſbaden, Schwalbach, Wildungen, and Brakel; the laſt of which poſſeſs a ſtrength, which renders them capable of intoxication, for which reaſon they are incloſed and guarded from abuſe.

275. *Mountains, Foreſts, Rivers, Lakes.*] Germany contains many internal mountains; but the principal ridges ſerve as external boundaries. Bohemia is ſurrounded with hills; Sileſia is ſeparated by thoſe called Rieſengebirge; and a ſtill more conſiderable range divides Sileſia and Moravia. The Auſtrian circle is extremely mountainous; the upper palatinate, Franconia and Suabia likewiſe contain many hilly tracts; and, indeed, almoſt every circle contains either ſingle mountains, or continuous ranges. Germany, however, in general contains many plains of immenſe extent.

This country was formerly very woody, and there are ſtill large foreſts remaining; but that memorable one, the Hercynian foreſt, which, in the time of Cæſar, was nine days journey in length and ſix in breadth, is now divided into ſmaller woods, which go by particular names, and in many places it is quite deſtroyed.

The principal rivers of Germany are the Danube, the Rhine, the Elbe, the Oder, the Weſer, the Moſelle, the Spree, the Penne, the Mein, and the Saar. The Danube, famous for it's cataracts and whirlpools, is ſo exceedingly broad from Vienna to Belgrade, that ſhips of war have frequently engaged on it.

The moſt capital German lakes, are thoſe of Conſtance and Bregentz, Chiemſee, or the lake of Bavaria, and the Zecknitzer-ſee in the duchy of Carniola.

276. *Manufactures, Commerce.*] With reſpect to manufactures and mechanics; the Germans at preſent make velvets, beautiful ſilks, rich ſilk, cotton and woollen ſtuffs, linen, fuſtian, ribbands, lace, embroidered work, tapeſtry, paper, &c. They are very expert in leather dreſſing, printing, and dying; in fabricating every kind of metal works, both maſſive and minute, few nations can equal them; nor are they leſs celebrated for their performances in glaſs, cut and poliſhed, lacquered ware and porcelain. Augſburgh is famous for it's productions in ſilver, and Nuremburgh for it's variety of ingenious and elegant wares in wood, ivory, metal, ſtone, and glaſs.

The revocation of the edict of Nantes, by Lewis XIV. which obliged the French proteſtants to take ſhelter in foreign countries, proved of the utmoſt advantage to the German manufactures; before that period, thoſe of velvets, ſilks, and ſtuffs, were in the rudeſt ſtate, but they have ſince been brought to the greateſt neatneſs and perfection; perſecution has often, in this way, defeated it's own intention.

In point of commerce, Germany derives vaſt advantages from it's ſituation; lying in the centre of Europe, poſſeſſing an extenſive ſea coaſt, and being interſected by a number of navigable rivers, it can with the utmoſt facility export the ſuperfluities of it's home commodities and manufactures, and receive thoſe of foreign countries.

The imports of Germany bear but a ſmall proportion to the exports, ſo that the balance of trade may ſafely be concluded to be vaſtly in their favour, yet the Germans are not ſo much given to commerce as ſome of their neighbours; and, except the Aſiatic company of Embden, eſtabliſhed by the King of Pruſſia, there is not any capital commercial ſociety in the whole empire. The towns of Hamburg, Lubeck, and Bremen, ſtill retain the name of Hans Towns, and have a league actually in force between them, under the ſanction of which they concluded treaties of commerce with foreign powers; but this is but a ſhadow of that grand confederacy for the promotion of trade and navigation, which was entered into about the middle of the thirteenth century, by many towns in Germany, and in other countries bordering on the German Ocean and Baltic, and obtained the name of the Hanſeatic League. This confederacy, after ſubſiſting upwards of two centuries with great commercial advantage, from various concurring reaſons, which proved detrimental to trade, ceaſed in it's general cogency and effect.

277. *Curioſities, natural and artificial.*] Every court of Germany has a cabinet of curioſities, artificial and natural, ancient and modern; the various antiquities, the coins, the manuſcripts, and the prodigious libraries which the literati of this country have collected together, and the many reliques, whether real or imaginary, which ſuperſtition treaſures up, and regards with a veneration greater than that of the virtuoſi, or rather curioſi, for their moſt precious remains of antiquity may all be reckoned among the rarities of this country; their bridges alſo; their gothic palaces, cathedrals, caſtles, and eſpecially their town houſes, are very curious; and their natural curioſities, as petrifactions, and a variety of curious foſſils; caves, into one of which they have proceeded twenty miles, without diſcovering it's end; and from others of which water guſhes out with great noiſe and impetuoſity when it thunders; and mineral ſprings and baths are unnumbered.

278. *Schools and learned Men.*] The univerſities in this empire are thirty-ſix in number, of which ſeventeen are Proteſtant, ſeventeen Romiſh, and two mixed. Beſides theſe there are a great number of colleges, gymnaſia, pedagogies, Latin ſchools, and ſeveral academies and ſocieties for promoting the ſtudy of natural philoſophy, the belles lettres, antiquities, &c.; among the latter of which are, the imperial Leopoldine Academy of the *naturæ curioſi*; and the academies of arts and ſciences at Vienna, Berlin, Gottingen, Erfurth, Leipſic, and Duiſburg. At Dreſden and Nuremberg are academies for painting, and at Augſburg is the imperial Franciſcan academy of fine arts.

Every prince, baron, and man in affluent circumſtances, in Germany is either a chemiſt or natural philoſopher. Among their learned men, Stahl, Swieten, Storck, and Hoffman have been accounted eminent in phyſic: Ruvinus and Dillenius in botany; Heiſter in anatomy and ſurgery; Newman, Jewmerman, Patt and Margff in chemiſtry; and Leibnitz, Wolfius, Puffendorf, Thomaſius, Otto Gueriche, and Kepler in philoſophy. Germany has alſo produced good geographers, hiſtorians, and political writers.

279. *Profeſſion*

279. *Profeſſion and Language.*] The reſolutions of ſeveral conventions have been, that no other religion but the Romiſh, Lutheran, and Calviniſt ſhould be introduced or tolerated in the holy Roman empire, or Germany; notwithſtanding which, many other ſocieties are in different parts allowed the free exerciſe of their religion; and the Jews in particular, are tolerated in the imperial cities, and many other parts.

The German language is a dialect of the Teutonic, without the leaſt affinity to the Celtic, and is called the High Dutch, being the mother-tongue of the whole empire; it abounds with conſonants, is extremely harſh to the ear, and varies ſo much in it's dialect, that the people of one province ſeldom underſtand thoſe of another. Latin is ſpoken very fluently by thoſe in higher ranks; and in moſt of the courts they ſpeak French, though that of Vienna, and ſome others prefer the Italian. In this fine city, the capital of the empire, a very great variety of inhabitants are to be met with, as Greeks, Tranſylvanians, Sclavonians, Turks, Tartars, Hungarians, Croats, Poles, Spaniards, French, Italians, &c. in their particular habits.

280. *Hiſtory.*] About three hundred and ninety years before the Chriſtian era, ſome colonies of Gauls, under Segoveſus, ſettled in Germany. From the time of Auguſtus, the Romans at different times, gained ſeveral advantages over the Germans, till about the latter end of the third century, they loſt all their poſſeſſions in this country.

In 432, the Huns, a Tartar nation, diſlodged by the Chineſe, conquered a great part of Germany, expelling the Alans, the Goths, and Viſigoths, who in their turns took poſſeſſion of the countries of their neighbours, and gave a new appearance to the poliſhed nations of Europe.

In 788, Charlemagne became maſter of all Germany, forcing the inhabitants to a profeſſion of Chriſtianity. It remained ſubject to his poſterity till 880, when the different princes revolted, and aſſuming their ancient independence, placed Arnulph, king of Bavaria, on the throne; ſince which time, Germany has been conſidered as an elective empire. The houſes of Saxony, Franconia, and Swabia by turns acquired the imperial power till 1440, when Frederick III. duke of Auſtria was elected emperor, and the imperial dignity continued in the male line of that family for three hundred years, when, after the wars in the Low Countries, in which ſo many of the European powers were concerned, at the peace of Aix la-Chapelle, the grand duke of Tuſcany was acknowledged emperor, by right of his wife Maria Tereſa, Queen of Hungary, and daughter to the emperor Charles VI.

281. *Hungary, Bohemia, &c.*] The kingdoms of Hungary and Bohemia, and the province of Tranſylvania, Sclavonia, Croatia, and Moldachia, may alſo be conſidered as a part of the German empire, having all by treaty or conqueſt been brought under the dominion of the houſe of Auſtria.

The national profeſſion or political eſtabliſhment of worſhip in theſe countries is that of Rome; but both Proteſtants and Greeks are very numerous.

Their natural hiſtory, curioſities, manufactures, and commerce, are much the ſame with thoſe of Germany. The inhabitants are compoſed of a variety of people differing in name, language, and manners; and this diverſity has been thus accounted for: the enthuſiaſtic ſpirit for liberty, which ſo long oppoſed the Roman arms, made it's laſt ſtand here, againſt thoſe conquerors of the world, who by degrees drove the remains of the different vanquiſhed nations into theſe quarters; the thickneſs of the woods, the rapidity of the rivers, and the natural ſtrength of the country, favoured their reſiſtance; and their deſcendants ſtill retain the moſt legible characters of thoſe unſubmitting heroes from whom they ſprung. Without regarding the arrangements made by the ambition of the ſovereigns of Europe, they ſeem to acquieſce under that government with moſt pleaſure, which allows them the greateſt latitude of privilege and ancient freedom; however their attachment ſeems greateſt to the houſe of Auſtria, but the Auſtrians or Germans did not even know the names of their various tribes till they learnt them from their military muſter-rolls, when they poured their troops into the field in ſupport of the pragmatic ſanction.

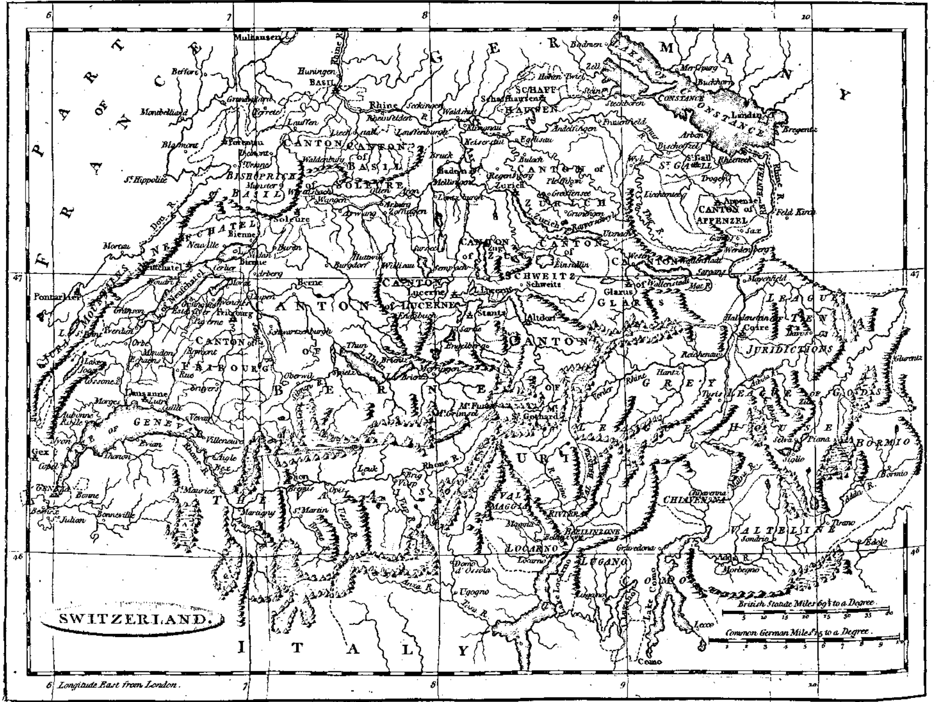
The pragmatic ſanction, a term which often occurs in the modern German hiſtory, is a proviſion that was made by the emperor, Charles VI. to preſerve the indiviſibility of the Auſtrian dominoins in the perſon of the next deſcendant of the laſt poſſeſſor, whether male or female; this proviſion has frequently been diſputed by other branches of the houſe of Auſtria, and France and Spain have oppoſed it's effect: but hitherto all attempts to abrogate it have proved ineffectual, and the pragmatic ſanction is ſtrongly guaranteed by almoſt all the powers in Europe.

The Romans alſo in their turn made a ſtand in this quarter, before the Goths and Vandals of the north entirely overpowered them, and among the variety of dialects, which however ſeem to be principally Sclavonic, ſome of the deſcendants of the legionary forces are ſtill to be diſtinguiſhed in the interior parts by their uſe of the Latin tongue; the Latin, however, is not confined to theſe, but is pretty generally underſtood, together with the German or high Dutch, throughout the Auſtrian dominions.

Hungary lies between forty-five and forty-nine deg. north latitude, and between ſixteen and twenty-three deg. eaſt longitude. It is bounded on the north by Poland; on the eaſt by Tranſylvania and Walachia; on the ſouth by Sclavonia; and on the weſt by Auſtria and Moravia; it's principal diviſions are,

Diviſions.	*Chief Towns.*
Upper Hungary.	Preſburg, Newhauſel, Leopolſtadt, Chremnits, Schemnits, Eſperies, Caſchaw, Tokay, Zotmar, Unguar, Mongats, Waradin Great, Segedin, Agria, Peſt.
Lower Hungary.	Buda, Gran, Comorra, Raab, Altenburg, Weiſſenburg, Kaniſha, Five Churches,

It's univerſities, if they deſerve the name, are thoſe of Firnam, Buda, Raab, and Caſcham.


SWITZERLAND.
PART OF FRANCE
GERMANY
ITALY
LAKE OF CONSTANCE
LAKE OF GENEVA
CANTON of BASIL
CANTON of SOLEURE
BISHOPRICK of BASIL
CANTON of LUCERNE
CANTON of ZURICH
CANTON of ZUG
CANTON of SCHWEITZ
CANTON of APPENZEL
CANTON of FRIBOURG
CANTON OF BERNE
CANTON OF URI
GLARIS
ST GALL
SCHAFFHAUSEN
LEAGUE OF TEN JURIDICTIONS
LEAGUE OF GRISONS
GREY LEAGUE
BORMIO
VALTELINE
CHIAVENNA
VAL MAGGIA
LOCARNO
LUGANO
COMO
JURA MOUNTAINS
Basil
Zurich
Berne
Lucerne
Fribourg
Lausanne
Geneva
Constance
Coire
Neuchatel
Soleure
Schweitz
Altdorf
Glarus
Bellinzone
Mt St Gothard
Rhine R.
Rhone R.
Aar R.
Ticino R.
Adda R.
British Statute Miles 69½ to a Degree
Common German Miles 15 to a Degree
Longitude East from London.
6
7
8
9
10
47
46

Bohemia lies between the parallels of forty-eight and fifty-two deg. north latitude, and between twelve and nineteen deg. eaſt longitude. It is bounded on the north by Saxony and Brandenburg; on the eaſt by Poland and Hungary; on the ſouth by Auſtria and Bavaria; and on the weſt by the palatinate of Bavaria. It is divided into Bohemia Proper, Sileſia, and Moravia.

Bohemia Proper, moſtly ſubject to the houſe of Auſtria, contains the towns of Prague, in which is an univerſity, Koningſgratz, Glatz, ſubject to the King of Pruſſia, and Egra.

Sileſia, moſtly ſubject to Pruſſia, contains Breſlau, Glogaw, Croſſen, and Jagendorff; Tropaw and Teſchen, both ſubject to Auſtria.

Moravia, entirely ſubject to the houſe of Auſtria, contains Olmutz, Brin, and Igla.

Tranſylvania is bounded on the north by Upper Hungary and Poland; on the ſouth by Walachia; on the eaſt by Moldavia and Morlachia; and on the weſt by Upper and Lower Hungary. It lies between forty-five and forty-eight deg. north latitude, and between twenty-two, and twenty-five deg. eaſt longitude. It is about one hundred and eighty miles in length, and one hundred and twenty in breadth.

Sclavonia is bounded on the north by the river Drave; on the ſouth by Stiria in Auſtria; on the eaſt by the Danube; and on the weſt by the Save. It lies between forty-five and forty-ſeven deg. north latitude, and between ſixteen and twenty-two deg. eaſt longitude, being two hundred miles in length and ſixty in breadth.

Croatia lies between forty-four and forty-ſeven deg. north latitude, and between fifteen and ſeventeen deg. eaſt longitude. It is bounded on the north by the river Save; on the ſouth by Morlachia; on the eaſt by Boſnia; and on the weſt by the duchy of Carniola. It is about eighty miles in length and ſeventy in breadth.

Morlachia lies between forty-four and forty-ſix deg. north latitude, and between ſixteen and ſeventeen deg. eaſt longitude; is about one hundred miles in length and thirty in breadth. On the north it is bounded by Carniola and Croatia; on the ſouth by Dalmatia; on the eaſt by Boſnia, and on the weſt by the Gulph of Venice.

SECTION XXXIII.

Swiſſerland.

The thirteen united cantons of Swiſſerland, the Helvetia of antiquity, is bounded on the north by Swabia; by the lake Conſtance, Tirol, and Trent on the eaſt; by Italy on the ſouth, and by France

on the weſt, extending from forty-five to forty-eight deg. north latitude, and from ſix to eleven deg. eaſt longitude.

282. *Diviſions.*] Seven of the cantons are Romiſh, and ſix proteſtants.

	Cantons.		*Allies.*	*Subjects.*
				COUNTIES.
Weſt.	Bern, Proteſt.	S. E.	Griſon Leagues	Sargans.
	Fribourg, Rom.		Chiavenna.	Turgow.
	Baſil, P.		Valteline.	Rotweil.
	Lucern, R.		Bormio.	
	Soloturn, R.			BAILLIAGES.
Eaſt.	Schaffhauſen, P.	E.	St. Gall Rep.	Lugano.
	Zurick, P.		St. Gall Abbey.	Lucarno.
	Appenzel, P.		Tockenburg C.	Bellents.
		S.W.	Valbis.	TOWNS.
M.	Zug, R.	N. W.	Neufchattel.	Baden.
	Swiſs, R.	W.	Geneva.	Bremgarten.
	Glaris, P.	N.	Mulhauſen.	Mellengen.
	Uri, R			Raperſwelt.
	Underwald, R.			Frawenfeldt.

283. *Climate, Productions, &c.*] Though this country lies in a ſouthern part of Europe, yet being ſituated among the Alps, the higheſt mountains of Europe, the air is much more ſevere than in the higher latitudes. The froſts in winter are intenſely ſharp, and many of the hills are covered with perpetual ſnow. In ſummer the inequality of the ſoil renders the ſame province unequal to it's ſeaſons, and it is by no means uncommon for the inhabitants of one ſide of a mountain to be reaping while thoſe on the other are ſowing. The vallies however are warm, fertile, and highly cultivated; but being ſubject to floods and various accidents, which frequently deſtroy the expected produce of the year, the natives have adopted the prudent precaution of erecting granaries to ſupply the failure of their crops; and the effects of their perſevering induſtry are aſtoniſhing. They drive the plough along the ſides of precipices which a horſe, unaccuſtomed to the country, would be incapable of aſcending without danger, and convert the rugged rock and the ſterile mountain into pleaſant vineyards and fruitful paſtures. A variety of pot herbs, and other eſculent plants are found in this country; and ſome of the mountains are covered with foreſts, which afford excellent timber, and a thouſand aromatic or medicinal herbs.

The cattle and ſheep in Swiſſerland are very numerous, and they have an exceeding good breed of horſes. On the mountains are bears and wolves, white and yellow foxes, hares which turn white in winter, the chamois goat, marmouſets, and the Alpine mice, which are in reality a ſpecies of badger.

The mountains in Swiſſerland abound in mines of iron, marble of various colours, cryſtal, ſpar, common gypſum, ſlate, ſandſtone, chalk, mundic, terra ſigillata, ſulphur, ſaltpetre, rock-ſal, and pit-coal.

Mineral ſprings are numerous in this country; but the moſt celebrated baths are thoſe at Baden, which, from the antiquities there found, as well

well as from the teſtimony of Tacitus, appear to have been known to the ancients.

284. *Mountains, Rivers and Lakes.*] The mountains of Swiſſerland are many and very ſtupendous. They divide almoſt all the Cantons from each other, and the whole country is ſeparated from Italy by a long chain of them, called the Alps.

The principal rivers in this country are the Rhine, the Aar, the the Ruſs, the Inn, the Rhone, the Thur and the Oglio; the ſand of ſome of theſe is ſaid to yield gold duſt.

The lakes are numerous, there being ſcarce a mountain without one onthe top of it; but the principal are thoſe of Geneva, Conſtance, Zurich, Biende, Thun, Neufchatel, and Lucern, all higheſt in ſummer by the melting of the ſnow.

285. *Commerce and Manufactures.*] The trade of Swiſſerland is greatly facilitated and promoted by it's rivers and lakes, and by it's droves of pack-horſes, for the conveyance of goods over the mountains where no carriages can paſs. The articles in which it conſiſts are fat cattle, ſheep, horſes, cheeſe, butter, hides, ſkins, and the productions of their own manufacture, the principal of which are ſilks of various kinds, gold and ſilver brocades, ſeveral ſorts of linen, lace, thread, cotton, neckcloths, a variety of woollen manufactures, ſtuffs, ſilk and worſted ſtockings, gloves, handkerchiefs, hats, paper, leather of all ſorts, porcelain, earthenware, toys, watches, clocks, and other hardwares. Their import are chiefly grain and ſalt.

286. *Curioſities, natural and artificial.*] The natural curioſities of this country are almoſt innumerable, but the moſt extraordinary are the Glacieres, or vallies of ice, which has in ſome places accumulated to a prodigious height. The heat of the ſun, in ſummer, cracks the ice with a noiſe like that of thunder, and in winter the expanſion of the ice in the cavities of the rocks ſplits them aſunder with ſimilar concuſſions and reports, rending, ſcarping, and breaking the precipices in ſuch pictureſque and curious forms, as to give them the appearance of prodigious piles of ruins.

The monuments of antiquity near the baths of Baden, the ruins of Cæſar's walls, and their extraordinary bridges (their time of foundation uncertain) are ancient curioſities of art; and many of the modern public buildings are curious, particularly the college of the Jeſuits at Friburg; and the public libraries and cabinets contain antiques, valuable manuſcripts, and curioſities of every denomination.

Indeed the whole aſpect of this romantic country is naturally curious, and the cultivated improvements of the natives mounted up to the ſummits of the hills, and their cloud-reaching roads carried over the mountains with uncommon labour and perſeverance, now inſinuated through tremendous rocky chaſms, and now, as it were, hung aloft in air on the dizzy brink of frightful precipices, may fill us with aſtoniſhment, while thoſe beautiful little ſolitudes, the curious hermitages of this country, may ſurpriſe with as lively, though leſs amazing, emotions; of theſe the moſt curious lies about two leagues from Friburg, among woods and rocks: it conſiſts of a chapel, oratory, ſteeple, hall, refectory, kitchen, rooms, ſtairs, cellar and other conve-

niences, all hewn out of a rock, even to the chimney and ſteeple, though the latter is fifty-four feet in height. All this was the twenty-five years labour of an hermit. But this is not all; with inexpreſſible labour he has levelled the ſide of the rock, brought earth from the neighbouring parts, and formed a delightful garden; and, that nothing might be wanting to render his retreat perfect, the hermit obſerving drops of water diſtil from the ſeveral parts of the rock, followed the veins, by which means he made a reſervoir ſufficient to water his garden and allay his thirſt.

287. *Learning, Schools, Language.*] The ſciences are cultivated in this country with aſſiduity and ſucceſs. Calvin, whoſe name is ſo well known, inſtituted laws for the city of Geneva, and Rouſſeau, who is principally known to the Engliſh as a noveliſt, but admired by the French as a poet in their own language, was a native of Geneva. Several of the Swiſs have diſtinguiſhed themſelves in the fine arts, and particularly in painting, ſculpture and engraving.

Swiſſerland contains many excellent foundations for the inſtruction of youth, eſpecially among the Proteſtant cantons, who, beſides their gymnaſia and ſchools in various places, have academies at Zurich, Bern, Lauſanne and Geneva. The Romiſh cantons have likewiſe ſeveral gymnaſia, and a college at Louſanne. But of all other literary inſtitutions, the univerſity of Baſil, founded in 1459, is moſt celebrated, being adorned with a very curious phyſic garden, containing the choiceſt exotics; and adjoining to a valuable library is a muſeum, extremely well furniſhed with natural and artificial curioſities, and a variety of medals and paintings.

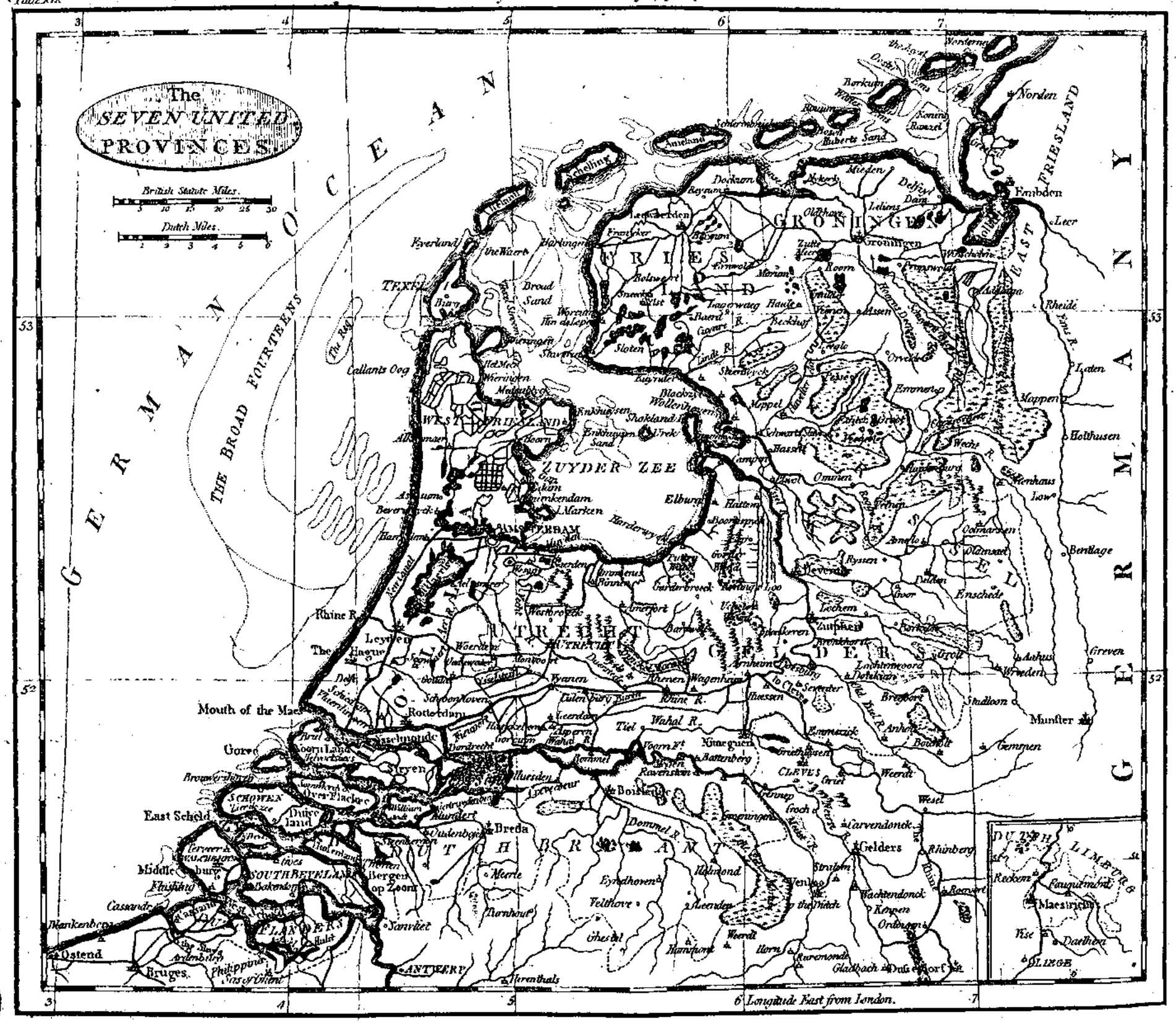
Several languages are ſpoken in Swiſſerland, but the moſt common is the German, in which all their ſtate and public tranſactions are carried on. On the borders of France and Italy the languages of both theſe countries are adopted, but neither of theſe borrowed tongues is ſpoken with purity or elegance.

288. *Hiſtory, Government.*] The Swiſs are the deſcendants of the ancient Helvetii, who were firſt conquered by Julius Cæſar, and afterwards lived in ſubjection to the Germans, until being cruelly treated, they revolted in 1308. In 1315, the ſeveral ſtates of which this country is compoſed, made their league perpetual; and in the year 1648, at the treaty of Weſtphalia, this republic was declared a free and independent ſtate.

The confederacy of the Swiſs, conſidered as a republic, comprehends three diviſions; the Swiſs, properly ſo called; the Griſons, or the ſtates confederated with the Swiſſes, for their common protection; and thoſe prefectures, which, though ſubject to the other two, by purchaſe or otherwiſe, preſerve their own particular magiſtrates. Each canton forms within itſelf a little republic; but when any controverſy ariſes that may affect the whole confederacy, it is referred to the general diet which ſits at Baden, where, each canton having a vote, every queſtion is decided by the majority. The general diet conſiſts of two deputies from each canton, beſides a deputy from the abbot of St. Gall, and the cities of St. Gall and Bien.

The

Engraved for Walker's Geography &c.



The conſtitution and government in each canton vary conſiderably, being in ſome places ariſtocratic, in others democratic. Every canton is abſolute in it's own juriſdiction; but thoſe of Bern, Zurich, and Lucerne, with other dependencies, are ariſtocratical, with a certain mixture of democracy, Bern excepted. Thoſe of Uri, Schweitz, Underwald, Zug, Glaris, and Appenzel, are democratical, Baſil, though it have the appearance of an ariſtocracy, rather inclines to a democracy. Geneva, by it's ſituation, is a thoroughfare between Germany, France, and Italy. It is beautifully ſeated upon the afflux of the large fine lake of Geneva, and has long been noted for it's curious arts and manufactures: it has alſo been equally celebrated for the learning of the profeſſors of it's univerſity, and the good government of it's colleges, the purity of it's air, and the politeneſs of it's inhabitants, who are more numerous here than in any other city of Swiſſerland, amounting to 24,000 people. But it has long been agitated with political diſputes. During the greater part of the laſt century, and down to the preſent time, it's hiſtory contains little more than a narrative of conteſts between the ariſtocratic and the popular parties; at length the latter has prevailed; but they ſtained their revolution by the exerciſe of ſeverity towards thoſe of the oppoſite party, ſeveral of whom were tried in a ſummary way, and ſhot, and others were baniſhed or impriſoned, with confiſcation of property.

SECTION XXXIV.

Holland.

The Netherlands lie between fifty and fifty-four deg. north latitude, and between ſeven and two deg. eaſt longitude. They are bounded on the north by the German Ocean, on the eaſt by Germany, on the weſt by the Britiſh Channel or German Ocean, and on the ſouth by France and Lorrain.

Under the title of Netherlands are comprehended, in a general ſenſe, ſeventeen provinces. The ſeven moſt northerly obtain the name of Holland, or the United Provinces; and the other ten are called Flanders, or the Auſtrian and French Netherlands.

289. *Diviſions.*] The provinces of Holland and their chief towns are as follow.

Provinces.	*Chief Towns.*
HOLLAND.	Amſterdam, Rotterdam, Delft, Hague, Haerlem, Leyden, Dort, Williamſtadt, Naerden.
	Gorcum, Heuſdem, Saardam, Edam, Hoarn, Enchuſen, Alkimaar, Monckdam, Purmerent, Briel, Helvoetſluys, Goree, Somerdyke, Burg,

ZEALAND.

ZEALAND.	Middleburg, Flushing, Terveer, Rammakins, Zerickſee, Brewerſhaven, Tolen, Catts, Tergoes.
FRIEZLAND.	Lewarden, Dockum, Franker, Harlington, Sloot.
GRONINGEN.	Groningen, Winſchotten, Dam.
OVERYSSEL.	Deventer, Zwall, Coverden, Otmarſen.
GELDERLAND and ZUTPHEN.	Arnheim, Loo Palace, Hardewich, Nimeguen, Skenkenſchans, Bommel, Zutphen, Doeſburg, Groll, Gelder, Venlo, Ruremond.
UTRECHT.	Utrecht, Amersfort, Dueſterdwyck.

290. *Air, Soil, Animals.*] The United Provinces lie very low, and are without mountains, or extenſive foreſts to diverſify the ſcene. The air is foggy, moiſt, and would be very unwholeſome, if not purified by the froſt in winter, when the eaſt wind uſually blows for about four months, during which ſeaſon, their harbours are generally frozen up. The ſoil is by nature unfavourable to vegetation, an obſtacle, which the induſtry of the inhabitants has in a great meaſure ſurmounted, in making canals and ditches to drain their lands, which, by this method, are rendered fit for paſture, and in many places for tillage.

Their animals are much the ſame with thoſe in England. The inhabitants buy lean cattle in Denmark, and the north of Germany, which their paſtures fatten to a prodigious bulk. Their horſes are very large. They have a fine breed of ſheep, whoſe wool is highly valued; and it is ſaid that in ſome places they have wild boars and wolves. Storks build and hatch in their chimnies. Their other birds are the ſame as ours; as are alſo the fiſhes found in their ſeas and rivers, though ſomewhat larger; but they have neither herrings nor oyſters on their coaſts.

291. *Rivers.*] The principal rivers in this country are the Rhine, the Vecht, the Maeſe, and the Scheld, which divides below Antwerp into two branches, the one called the weſtern, and the other the Oſter Scheld. The Rhine originally ran in one channel by Utrecht and Leyden, but that being choaked up, it now, on entering Holland, forms three branches, viz. the Waal, Lech, and Iſſel. Theſe great rivers are joined in their courſe by a number of ſmaller ones, and ſeveral canals; theſe contribute much to the improvement of commerce, on theſe the people are continually paſſing and repaſſing in their trackſcuits or paſſage boats, and in the winter, both men and women by thouſands on their ſkates.

292. *Commerce, Manufactures.*] The United Provinces, though they produce very little in themſelves, yet almoſt all the products and commodities of the globe may be found here, and bought nearly as cheap as in the places they were brought from; and ſo extremely induſtrious and enterpriſing are the Dutch, that there is ſcarcely a manufacture they do not carry on, or a ſtate with which they do not trade.

293. *Curioſities.*] There are but few natural curioſities in Holland. The ſtadthouſe at Amſterdam may be eſteemed one of the artificial kind:

kind: it ſtands upon thirteen thouſand piles driven into the ground. The outſide makes a grand appearance, and the inſide is at once magnificent and convenient. Several muſeums, containing antiquities and curioſities, are to be found in Holland, and the other provinces, particularly in the univerſity of Leyden. But their land-making dykes are the greateſt curioſity. In fact, the country may be conſidered as reſcued from the ocean by theſe artificial bulwarks, and when the dykes happen to be broken down, the damage is prodigious, the place of villages and towns, plantations, and fields becoming one extenſive tract of ſea.

294. *Religion, Language.*] The national profeſſion of religion in this country is the Preſbyterian or Calviniſm, none but people of this perſuaſion being admitted into any office poſt or in the government, excepting the army; nevertheleſs all profeſſions and ſocieties are tolerated, and allowed their reſpective meetings and aſſemblies for public worſhip, among which are numbers of the Lutherans, Romaniſts, Moravians, Baptiſts, Quakers, and Jews.

The native language of this country is Low Dutch, a corrupted dialect of the German, and even unintelligible to thoſe who underſtand the German tongue, or High Dutch; however, the people of faſhion are capable of converſing in the French language, and many of them in Engliſh.

295. *Literati, Schools.*] With reſpect to learned men, Holland has produced Eraſmus and Grotius, Boerhaave and Grœvius, Burmann and Van Haaren. In the fine arts, the Dutch have chiefly diſtinguiſhed themſelves in painting, though they are not deſtitute of ſkilful ſtatuaries.

They have five univerſities, viz. Leyden, Utrecht, Groningen, Harderwicke, and Franeken; two Gymnaſia, one at Amſterdam, and another at Deventer, beſides an academy of ſciences at Haerlem, and ſeveral famous grammar ſchools in different places.

296. *Hiſtory, Government.*] This country was formerly part of the territories of the ancient Belgæ, who were conquered by Julius Cæſar. After this, it was ſucceſſively under the Franks, it's own counts, and the earls of Hainault, and the houſe of Burgundy. In 1534, the people, rather than ſubmit to the biſhop of Utrecht, ſurrendered their liberties to Charles V. who in 1556, gave them to his ſon Philip II. of Spain. Being oppreſſed by the Spaniards, they, together with other neighbouring provinces, revolted in 1572, and at length compelled their old maſters to acknowledge them an independent republic, as they continue to be to this day.

The late revolution in Holland, ſeems to have been more happily effected than thoſe of Geneva, France, or America; yet, if we trace back this event to it's early ſtages or beginnings, we ſhall find that it has alſo been diſtained with blood. The commotions of 1787, between the patriots, and the monarchical, or Orange party, though ſuppreſſed, by the interference of the courts of London and Berlin, ſo far as to ſtop the further effuſion of blood, ſeem not to have been thoroughly allayed. When the French, in 1795, had repulſed the combined

combined armies, and made advances in Holland, they found the major part of the people ready to receive them as friends.

On the 19th of the firſt month, the leaders of the revolution of 1787, aſſembled at Haerlem, in the houſe of Citizen Leſtevenon, and all the members of the clubs were invited to repair with arms to their aſſigned poſts. This was done accordingly, all the members wearing the French national cockade. Deputies were ſent by the people thus aſſembled, to the preſiding burgomaſter, Vermulen, whom they obliged to ſign an order, enjoining the governor of the town not to oppoſe the will of the people. He, as well as all the other magiſtrates, were obliged to reſign their places.

On the 20th, the French commiſſioners publiſhed a declaration, by which they enſured to the Dutch people, their full independence, and acknowledged their right to alter or correct the conſtitution of their country. A letter was alſo communicated to the people, by proclamation, written by the French General, Daendals, (one of the chiefs of the revolution of 1787, who had been baniſhed the country), wherein he exhorted the inhabitants of the United Provinces to ſhake off the yoke of tyranny, under which they had but too long languiſhed; at the ſame time, the tree of liberty was planted in the great ſquare, and all the inhabitants hoiſted the French national cockade. Citizen Hovens, having mounted the pulpit in the great church-houſe, delivered to the people a ſpeech on the neceſſity of forming a new ſocial compact, founded on the ſolid baſis of liberty, equality, and fraternity.

On the 22d, electors were nominated to chuſe four and twenty proviſional repreſentatives of the people, who undertook to perform the municipal functions at Haerlem, during the next two months. Citizen Van Styrum was appointed mayor of the town, and Jan Cambier, commander of the armed citizens.

On the 22d, the proviſional repreſentatives of the people of Amſterdam, at the requeſt of the commanding French General, prohibited all inſults againſt the Dutch troops, made priſoners of war by the French army.

The repreſentatives of the French people arrived at the Hague, in the night, between the 24th and 25th ult. The diſcharge of 21 pieces of cannon announced their arrival, and they took up their abode in the palace of the Stadtholder. General Pichegru and his ſtaff were quartered in the palace of the ancient court. On the 25th, in the morning, the repreſentatives were complimented by a deputation from the States of Holland and Weſt Frieſland, and afterwards by ſome deputies of the States General.

On the 26th, ſeveral deputies from different towns of Holland aſſembled at the Hague, in the tavern, called the Heeren-logement, and then repaired to the Haerlem tavern, ſent for Secretary Rouer, the only legal actual miniſter of Holland, and requeſted him to proceed to the Penſioner of Holland, and to order him to get ready the Aſſembly Room of the States of Holland, for the reception of the members of the principal towns, who conſidered themſelves as convened for the purpoſe of meeting there; but that they could neither admit, to their conference, him, the penſioner, nor any member of the ſelf-

named

named order of nobility. The ſaid deputies, accompanied by their tipſtaffs, repaired in a body to the ſaid place, and opened their firſt ſitting. P. Paulus was appointed preſident, and the Citizens Spoors, De Lange, and Van Wyngarten, ſecretaries, for the ſpace of fifteen days.

The preſident, in his ſpeech, complimented the members of the aſſembly as lawful repreſentatives of the people; he called their attention to the ways of Divine Providence, which, in ſo particular a manner, had favoured the ſucceſs of the friends and deliverers of the country by the ſevere froſt, which had covered the rivers and waters with ice. He acknowledged the ſovereignty of the people, and the ſacred rights of man.

The firſt operation of the aſſembly conſiſted in aſſuming the title of, "Aſſembly of the Proviſional Repreſentatives of the People of Holland".

On the ſame day, the proviſional repreſentatives of the people of Amſterdam appointed a mayor; a procureur of the commune; a revolutionary committee, conſiſting of 11 members; a committee of general inſpection, compoſed of 15 members, and preſided by the mayor; a committee of public welfare, conſiſting of 8 members; a committee of juſtice, conſiſting of 9 members, all counſellors; a committee of trade and navigation, compoſed of 28 members; and a committee of finance, conſiſting of 7 members. All theſe arrangements are merely proviſional, and only to ſubſiſt, till ſuch time as the citizens ſhall be able in a lawful manner to elect their repreſentatives, and to eſtabliſh a form of government for this town.

On the 28th, the proviſional repreſentatives of the people of Amſterdam, informed the inhabitants of that town, of a decree enacted by the aſſembly of the repreſentatives of the people of Holland, which, 1ſt, acknowledges the ſovereignty of the people, and the rights of man; 2dly, aboliſhes the hereditary dignity of the ſtadtholder, as captain and admiral-general of Holland; 3dly, annuls the oath taken by the inhabitants of Holland, in favour of the ſelf-named ancient conſtitution; 4thly, aboliſhes the council of deputies, and the chamber of accounts of Holland; 5thly, recalls the deputies of the province of Holland at the aſſembly of the pretended ſtates general; 6thly, grants the right of hunting and fiſhing to all the inhabitants, without exception, within the bounds of their poſſeſſions; 7thly, orders the taxes hitherto levied to be continued proviſionally; 8thly, enacts, that a courier be ſent to the commiſſioners of the ſelf-named ſtates general at Paris, ordering them to abſtain from tranſacting any buſineſs in the name of the province of Holland, and to conſider themſelves as recalled; and laſtly, preſcribes that commiſſioners of the aſſembly of the proviſional repreſentatives of the people of Holland, are immediately to have a ſeat in the aſſembly of the ſtates general.

On the ſame day, Citizens Leſtevenon and Van Leyden read, in the ſitting of the repreſentatives of the people of Holland, a detailed account of the nature and object of that aſſembly, written in French, and to ſerve as a report to the French commiſſioners on that ſubject.

In the ſitting of the 29th, the great penſioner, Van Dan Spiegel,

was

was deprived of his place; and the great bailiff, Count Bentinck, ſhared the ſame fate. He is ſucceeded by Counſellor Shepmon.

On the 30th, the repreſentatives of the people of Amſterdam, publiſhed an ordinance, prohibiting all the members of the ancient magiſtracy of the town, and all the former miniſters and officers from leaving the place, without having obtained a permiſſion in writing from the committee of inſpection, under pain of being conſidered as ſuſpected perſons, and their property ſequeſtrated.

The following is the firſt public inſtrument of the new order of things, and was publiſhed at the Hague, accompanied by the ſound of trumpets and the ringing of bells.

Declaration of the Rights of Man, and of a Citizen.
Liberty, Equality, Fraternity.

"The proviſional repreſentatives of the people of Holland, believing that they owe to their fellow-citizens, a ſolemn declaration of the principles, upon which their proceedings and actions depend, to all thoſe to whom theſe preſents ſhall come, or who ſhall hear them read, health, they make known,

"That we are perfectly convinced, that the power which has been confided to us, repoſes only on the free choice of our fellow citizens, and that it is from this choice alone we have received it: that no ſupreme power reſides in us; but that the proper ſovereignty reſts in the people, and this in ſuch manner, that the people can confer the exerciſe of it on their repreſentatives, but can never alienate it from themſelves; that we are aſſured that the evils which this day are ſo heavy on this country, and the other provinces, owe principally their origin to the perverſe ideas that have been preſented to the people by artifice and violence; and that therefore it is required on the part of the repreſentatives of the people, who deſire to be faithful to their duty, to lay down certain and evident principles, and to fix them as the rule of their conduct; that though we thought that the final ſettlement of theſe rights ought to be the firſt work of a national convocation of the repreſentatives of all the people, named to decree, and fix a form of government, we nevertheleſs owe to the confidence which our fellow-citizens have placed in us, to make a public and ſolemn recognition of the rights of man, and of a citizen, in declaring, as we recognize, and declare by theſe preſents.

"That all men are born with equal rights, and that theſe natural rights cannot be taken from them.

"That theſe rights are equality, liberty, ſafety, property, and reſiſtance to oppreſſion.

"That liberty is the faculty which belongs to every man, to be able to do that which does not affect the rights of other men: therefore it's natural limitation is found in this principle, *do not to another, that which thou wouldſt not wiſh him to do unto thee.*

"That therefore it is permitted to all, and to each, to make known to others his thoughts and ſentiments, be it by the way of the preſs, or by all other means.

"That

" That each man has the right to ſerve God in ſuch manner as he pleaſes, or does not pleaſe, without being forced in this regard in any way.

" That ſafety conſiſts in the certainty of not being troubled by another in the exerciſe of his rights, nor in the peaceable poſſeſſion of property legally acquired.

" That each man has the right of ſuffrage in the legiſlative aſſembly, of the entire ſociety, either perſonally or by repreſentation, in the choice of which he has concurred.

" That the end of all civil ſocieties ought to be, to aſſure to men the peaceable enjoyment of their natural rights.

" That therefore the natural liberty of being able to do every thing which does not hurt the rights of others, ought never to ſuffer any obſtacle, except when the end of civil ſociety requires it.

" That ſuch bounds to natural liberty cannot be impoſed, but by the people or their repreſentatives.

" That conſequently no perſon can be obliged to cede, or ſacrifice any part of his particular property, to the general commonwealth, unleſs this ſhall be expreſsly regulated by the will of the people, or their repreſentatives, and according to a previous indemnity.

" That the law is the free and ſolemn expreſſion of the general will; that it is equal for all, either to puniſh or to reward.

" That no perſon can be accuſed, arreſted, or put in priſon, but in ſuch caſes, and according to ſuch formalities as ſhall be previouſly fixed by the law itſelf.

" That in caſe it ſhall be judged neceſſary to hold any perſon priſoner, no one ought to be treated more rigorouſly than is abſolutely neceſſary for confining his perſon.

" That all men being equal, all are eligible to all poſts or employments, without any other motives of preference, than thoſe of virtues and of capacities.

" That each one has the right to concur in requiring from each functionary of public adminiſtration, an account and juſtification of his conduct.

" That there never can be laid the ſmalleſt reſtriction on the right of each citizen, to repreſent that which is his intereſt to thoſe in whom the public authority is entruſted.

" That the ſovereignty reſides in the entire people, and that therefore no portion of the people can arrogate it to themſelves.

" That the people have at all times a right to change their form of government, to correct it, or to chuſe another.

" That ſuch are the principles upon which we have believed it to be our duty to found our actions and our proceedings; and that being deſirous of applying them to the order of things which had heretofore taken place, we forthwith diſcovered that the form of government which was confirmed in 1787, by means of the invaſion of the Pruſſian army, and conſequently by force only, was in every reſpect contrary thereto.

" That the perſons who heretofore compoſed the aſſembly of the *ſoi diſants* ſtates of Weſt Frieſland, were never elected by their fellow-

citizens to be their repreſentatives, and that therefore this government could not ſubſiſt, as being abſolutely contrary to the rights of man and of a citizen; that we alſo preſently perceived that all hereditary dignities, ſuch as hereditary ſtadtholder, captain-general, and admiral of this province, and of the equeſtrian order, as well as hereditary nobleſſe, are repugnant to the rights of man, and that they ought to be held and declared aboliſhed, as they are declared to be aboliſhed by theſe preſents.

"That we aſſure ourſelves, that by this declaration all the extorted and illegitimate oaths on the *ci-diſant* ancient conſtitution preſcribed in 1787 and 1788, become in fact of no value; inaſmuch as ſuch an oath ought to have been preciſely of ſome value; but to tranquillize all and each, we declare beſides, in the name of the people of Holland, as it is well and expreſsly declared by theſe preſents, that all citizens, who may have taken the above oath, are hereby diſcharged therefrom. That in the ſame manner the college, as the *ci-devant* deputy counſellors of the ſouthern and northern quarter were called, is entirely incompatible with theſe principles, not leſs than the diviſion of the economical adminiſtration in regard to finance and otherwiſe, as well as to the chamber of accounts, as they all reſulted from the government, in which there was no real repreſentation whatever; and that conſequently we have judged it to be our duty to ſuppreſs and aboliſh all the above-named colleges, as we now ſuppreſs and aboliſh them by theſe preſents. And to re-eſtabliſh conveniently and forthwith the benefit of theſe colleges, we have thought it our duty to eſtabliſh and appoint a committee of public ſafety, a military committee, a committee of finance, and a committee of accounts, the whole proviſionally, and only until definitive arrangements ſhall be made on this ſubject by an aſſembly of repreſentatives, choſen by all the people, who ſhall be convoked for that purpoſe as ſpeedily as poſſible; that, beſides, we have not thought it fit to attach any other title to our preſent aſſembly than that of proviſional repreſentatives of the people of Holland, without adding to it the name of Weſt Frieſland, having judged that it would be better to comprehend the entire province of Holland under that denomination.

"We will and ordain expreſsly the courts of juſtice in this province, as well as the regency of the cities and other places ſituated in it; that our preſent publication ſhall be made known to the citizens of this province by the ſound of trumpets and ringing of bells, or ſuch other ſolemn manner as ſhall be judged the moſt convenient in each city or place, and that it ſhall be alſo poſted according to cuſtom, and that each one ſhall conform himſelf to it preciſely.

"Done at the Hague, under the ſmall ſeal of the country, the 31ſt of January, 1795, the 1ſt year of Batavian liberty. (Signed)

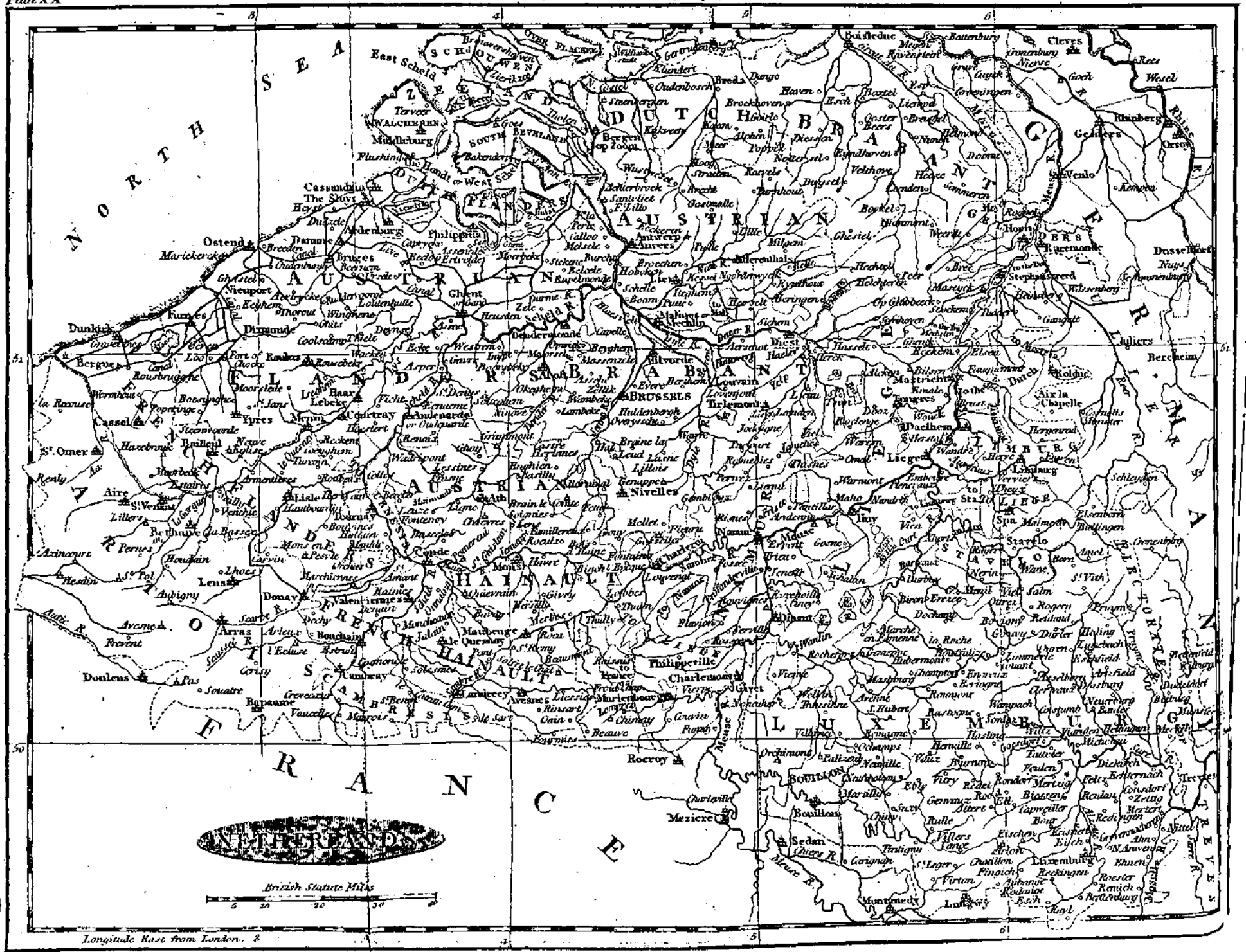
"P. PAULUS, Vt.

"C. J. DE LANGE VAN WINGAERDE."

SECTION

Plate XX

Engraved for Walker's Geography.



SECTION XXXV.

Flanders.

297. *Diviſions.*] Flanders has been divided among the Dutch, the Auſtrians, and the French. The laſt have now poſſeſſion of the greater part of this fertile and populous country; and the diviſion into ſubjected provinces is giving place to that of republican departments.

Provinces.	*Chief Towns.*
BRABANT.	Bruſſels, Louvain, Vilvorden, Landen, Bois-le-Duc, Breda, Bergen-op-Zoom, Grave, Lillo, Steenbergen.
ANTWERP.	Antwerp.
MALINES.	Mechlin.
LIMBURG.	Limburg, Maeſtricht, Dalem, Faquemont, or Valkenburg.
LUXEMBURG.	Luxemburg, Thionville, Montmedy.
NAMUR.	Namur, Charleroy.
HAINAULT.	Mons, Ath, Enguien, Valenciennes, Bouchain, Condé, Landrecy.
CAMBRESIS.	Cambray, Crevecoeur.
ARTOIS.	Arras, St. Omer, Aire, St. Venant, Bethune, Terouen.
FLANDERS.	Sluys, Axel, Hulſt, Sas Van Ghent, Ghent, Bruges, Oſtend, Newport, Oudenard, Courtray, Dixmude, Ypres, Tournay, Menin, Liſle, Dunkirk, Douay, Mardyke, St. Amand, Gravelines.

298. *Climate, Soil, and Foſſils.*] The air of Brabant, and along the maritime diſtricts, is generally eſteemed thick and inſalubrious, but in the interior parts it is extremely healthful, and the ſeaſons are more ſettled than in Britain. The ſoil is, in moſt parts, abundantly fertile, producing corn and fruits in great plenty, and affording excellent paſturage; and even the more ſterile diſtricts yield very plentiful crops of flax.

In the provinces of Luxemburg and Limburg are mines of iron, copper, lead, and brimſtone, and quarries of ſeveral ſpecies of marble. Namur abounds in coal-pits, and a kind of fat, bituminous earth, uſed as fuel, with plenty of curious foſſil nitre.

299. *Rivers, Canals.*] The principal rivers of Flanders are the Maeſe, Scheld, Sambre, Demer, Dyle, Geet, Neeth, Rupple, Sanne, Deule, Dender, Lis, and Scarpe; and the moſt capital canals are thoſe of Bruſſels, Oſtend, and Ghent.

300. *Commerce, Manufactures.*] The Auſtrian Netherlands, by the united aids of culture and commerce, was long the moſt opulent and populous ſpot in Europe. The moſt elegant manufactures were brought to all poſſible perfection. The cities were rich and magnificent beyond deſcription, and the whole face of the country exhibited the moſt enchanting appearance. Theſe qualities, however, exiſt at preſent but in a very inferior degree; neglected by it's reſpective governments, and outſtripped in every commercial purſuit by Holland and Great Britain, Flanders has ſunk in ſplendor in proportion as thoſe powers have riſen. The trade of the Flemings at preſent conſiſts chiefly of their own manufactures, viz. fine linens, particularly a ſort made at Cambray, and from thence called cambric; delicate laces, for which Mechlin is the grand mart; and the woollen manufacture, wherein it is ſaid, that Poſterwicke alone employs five hundred looms. Oudenarde is famous for it's beautiful tapeſtries. Flanders is remarkable for breeding black cattle, and Luxemburg abounds in corn, great part of which is ſent to foreign markets.

301. *Curioſities.*] In 1607, ſixteen hundred gold pieces were found at Dendermond, and proved to be a collection of ancient medals of Antoninus Pius, Aurelius, and Lucius Verus. Some Roman highways are yet entire, and ruins of temples, and other buildings are found in many parts. The other curioſities of this country conſiſt chiefly in their public edifices, in many of which there are highly finiſhed paintings.

302. *Language, Literati, Arts, and Schools.*] The inhabitants on the frontiers of Holland ſpeak Dutch, as thoſe, who reſide in the provinces, ſubject to France, uſe a very bad French: the reſt are a mixture between both, and their language is a different dialect of the German from that of the Dutch.

The elegant arts in this country have arrived at a greater perfection than the uſeful. The belles lettres, rather than philoſophy, have engaged the attention of their literati; and the Flemiſh ſculptors and painters poſſeſs a very ſuperior degree of excellence, and form a ſchool of themſelves. The animated productions of Reubens and Vandyke are very univerſally admired. Fiamingo, or the Flemings' models for heads, eſpecially thoſe of children, are thought to have never yet been equalled, and the ingenious art of weaving tapeſtry was long confined to the Flemings alone.

The univerſities of Flanders have been four, St. Omer's, Douay, Tournay, and Louvain.

303. *Hiſtory.*] When the United Provinces had ſhaken off the Spaniſh yoke, and Philip IV. in 1648, had expreſsly renounced all claim to ſovereignty over them, the other ten provinces of the Low Countries, or Flanders, returned under the dominion of Spain, but with very favourable ſtipulations, with reſpect to their ancient laws and liberties. In 1714, the Netherlands fell under the government of the houſe of Auſtria, which had formerly had poſſeſſion of them.

Theſe rich and fertile countries have often been the theatre of war, and bear the marks of the horrors they have been ſubject to, in their numerous forts, and fortified cities. In the conteſts of the neighbouring nations

nations for territorial acquiſitions, the Engliſh have commonly mingled, and the country has thus been agitated, from time to time, with partial revolutions. The emperor, Charles VI. left the Auſtrian Netherlands to his daughter, Maria Tereſa, Queen of Hungary and Bohemia, who married Francis, Grand Duke of Tuſcany, afterward emperor. During the reign of their beloved empreſs, the Flemings were content and happy; but, ſoon after the ſuppreſſion of the civil tumults in Holland, her ſon Joſeph II. having projected many innovations in the conſtitution, both in church and ſtate, and enforcing them with violence, an univerſal ſpirit of revolt broke out. On the part of the emperor, the inſurgents were treated with inſolence and contempt. The governor of Bruſſels iſſued a proclamation, intimating that no quarter ſhould be given them, and that the villages, in which they concealed themſelves, ſhould be ſet on fire. The patriots, on their part, threatened baniſhment to ſuch as ſhould take part with the emperor, and all were exhorted to take up arms in defence of their country. A formidable army was ſoon raiſed, which, after ſome ſucceſsful ſkirmiſhes, made themſelves maſters of Ghent, Bruges, Tournay, Malines, and Oſtend, and drove from Bruſſels the vaunting general of the emperor. A battle was fought before the city of Ghent, in which the patriots were victorious, though with the loſs of 1000 men, beſides women and children, for theſe were not ſpared by the mercileſs armies of the tyrant, and orders were given to plunder and deſtroy wherever they could obtain any booty. By the horrid cruelties of the Imperialiſts, the number of the inſurgents was increaſed; for the whole countries of Brabant, Flanders, and Maes, almoſt inſtantly declared in their favour. The patriots publiſhed a memorial for their juſtification, alleging, as reaſons for their conduct, the many oppreſſive edicts with which they had been harraſſed ſince the death of the empreſs-queen; the unwarrantable extenſion of the imperial prerogative, contrary to the coronation-oath; the violence committed on the people, by forcibly entering their houſes at midnight, and ſending them priſoners to Vienna, to periſh in a dungeon, or on the banks of the Danube. They ſaid, that Joſeph, not content with this, had openly maſſacred his ſubjects, had conſigned towns and villages to the flames, and had entered into a deſign of exterminating people who contended only for their rights. Theſe things, they owned, might be terrible at the time, and eaſily impoſe upon weak minds, but the natural courage of a nation, roufed by repeated injuries, and animated by deſpair, would riſe ſuperior to thoſe laſt efforts of vindictive tyranny, and render them as impotent and abortive, as they were wicked and unexampled. For all which reaſons they declared themſelves independent, and for ever releaſed from the houſe of Auſtria.

In this account of the emperor of Germany, what a lamentable inſtance we have exhibited of the evil influence of power. It's natural tendency is to bewilder the judgment, and deprave the mind. In ſome of the acts of Joſeph there ſeemed to be a diſpoſition to promote the happineſs of mankind, and had he moved only in private life, it

ſeems probable that he would have obtained the character of a benevolent philoſopher, inſtead of that of an overbearing tyrant.

When the emperor perceived the bad effects of his cruelty, he publiſhed proclamations of indemnity; but theſe were treated with the utmoſt contempt. The patriots made the moſt rapid conqueſts, inſomuch that, before the end of the year, they were maſters of all the Netherlands, except Antwerp and Luxemburg.

The death of Joſeph happening ſoon after, his brother Leopold, a man of a humane and pacific diſpoſition, ſucceeded him, and, by adopting conciliatory meaſures, together with the interference of the Kings of Great Britain and Pruſſia, and the States-General of Holland, again attached the Belgic Provinces to the houſe of Auſtria, the interfering powers undertaking to guarantee the ſovereignty of them to the emperor and his ſucceſſors. This took place in the latter part of the year 1790; but, ſince that time, the combined armies of the claimant and the guarantees have been together driven out from the greater part of the Netherlands by the French, who are about to fraternize with the people, and to receive them and their fertile territories into their republic.

SECTION XXXVI.

France.

France lies between forty-two and fifty-one degrees north latitude, and between five degrees weſt, and eight degrees eaſt longitude. It is bounded on the north by the Netherlands and the Engliſh Channel; on the eaſt by Germany, Swiſſerland and Italy; on the ſouth by the Mediterranean and Pyrenean Mountains; and on the weſt by the Bay of Biſcay.

The republic of France, excluſively of the countries lately obtained by conqueſt, is divided into 84 departments. Each department is divided into diſtricts, and each diſtrict into cantons.

Departments.	*Chief Towns.*
STREIGHTS of CALAIS.	Arras, Bapaume, Montreuil, Bethune, St. Omer, Calais, Heſdin.
NORTH.	Liſle, Aveſnes, Le Queſnoy, Valenciennes, Cambray; Douay, Bailleul, Gravelines, Dunkirk.
LOWER SEINE.	Rouen, Caudebec, Havre de Grace, Dieppe, Cany, Neufchatel.
SOMME.	Amiens, Abbeville, Doulens, Peronne, Mondidier.

AISNE.

Plate XXI

Engraved for Walkers Geography &c.

Departments.	*Chief Towns.*
AISNE.	Laon, Soiſſons, Concy, Chauny, St. Quintin, Guiſe.
ARDENNES.	Mezières, Sedan, Buzancy, Attigny.
CHANNEL.	Coutances, Cherbourg, Valognes, Carentan, Perriers, Avranches, Mortain.
CALVADOS.	Caen, Bayeux, Pont l'Evêque, Lifieux, Falaiſe, Vire.
EURE.	Evreux, Pont au de Mer, Louviers, Bernay, Verneuil.
OISE.	Beauvais, Villers, Coterets.
MARNE.	Chalons, Rheims, St. Menehould, Epernay, Sézanne.
MEUSE.	Bar le Duc, Stenay, Eſtain, Verdun, St. Mihiel.
MOSELLE.	Metz, Longwy, Longuion, Thionville, Briey, Bouzonville, Boulay, Saar Louis, Morhange.
LOWER RHINE.	Straſbourg, Weiſſenbourg, Haguenau, Saverne, Schletſtat.
FINISTERRE.	Breſt, Leſneven, Morlaix, Chateaulin, Quimper.
NORTH COAST.	St. Brieux, Pontrieux, Guimgamp, Dinan, Roſternen, Loudaec.
ISLE AND VILAINE.	Rennes; Bain, Vitre, Dol.
MAYENNE.	Laval, Laſſay, Vilaine, Ernée, S. Suſanne, Chateau-Gontier.
ORNE.	Alençon, Argentau, Domfront, Sees.
EURE AND LOIRE.	Chartres, Chateauneuf, Chateaudun.
SEINE AND OISE.	Verſailles, St. Germain, Raimbouilet, Etampes, Pontoiſe, Mante.
PARIS.	PARIS. Lat. 48. 50. N. Lon. 2. 25. E.
SEINE AND MARNE.	Melun, Colomiers, Roſoy.
AUBE.	Troyes, Nogent, Arcis, Bar-ſur-Aube, Bar-ſur-Seine.
UPPER MARNE.	Chaumont, Vaſſy, Joinville, Langres.
MEURTE.	Nancy, Sarbourg, Vic, Luneville, Vezeñze, Gondrecourt.
VOSGES.	Epinal, St. Diez, Neufchateau, La Marche, Remiremont.
UPPER RHINE.	Colmar, Belfort, Altkirch.
MORBIHAN.	Vannes, La Faouette, Joſſelin, Pontivy, Auray, L'Orient, Rochefort.
LOWER LOIRE.	Nantes, Cliſſon, Chateau-Briant.
MAYENNE & LOIRE.	Angers, Segre, Beaupreau, Chollet.
SARTE.	Le Mans, Sille, St. Calais, La Fleche, Frenay, Le Ferte.
LOIRE AND CHER.	Blois, Vendome, Montrichard.
LOIRET.	Orleans, Pethiviers, Neuville, Gien.
YONNE.	Auxerre, Sens, Joigny, St. Fargeau, Avallon.
CÔTE D'OR.	Dijon, Chatillon-ſur-Seine, Is ſur Thil, Beaune.
UPPER SOANNE.	Veſoul, Juſſey, Gray.

Departments.	*Chief Towns.*
DOUBS.	Beſançon, St. Hypolite, Quingey.
VENDEE.	Fontenai-compte, Montaigu, Chaolns, Lucon, La Roche.
TWO SEVRES.	Niort, Thouars, Beſſuire, St. Maixent, Melle,
VIENNE.	Poitiers, Loudun, Luſignan, Montmorillon, Civroy.
INDRE AND LOIRE.	Tours, Amboiſe, Chinon.
INDRE.	Chateauroux, Chatillon, Argenton, La Chatre,
CHER.	Bourges, Aubigny, Henrichmont, Sancoin, St. Amand.
NIEVRE.	Nevers, Coſny, Lorme, Chateau-Chinon, Decize.
SOANNE AND LOIRE.	Macon, Autun, Chalons, Louhons, Charolles, Semur, Cluny.
JURA.	Dole, Lons, Salins, Poligny, Arbois, St, Claude.
LOWER CHARENTE.	Santes, La Rochelle, Rochfort, Pons.
CHARENTE.	Angouleme, Coneolens, Ruffec, La Rochefoucault, Barbezieux.
UPPER VIENNE.	Limoges, Le Dorat, Bellac, St. Leonard.
CREUZE.	Gueret. Chambon, Felletin.
ALLIER.	Moulins, Mont Lucon, Le Donjon, Cuſſet.
RHONE AND LOIRE.	Lyons, Roanne, Villefranche, Montbriſſon, St, Elienne.
AIN.	Bourg, Ambereaux, Belley, Gex.
GIRONDE.	Bourdeaux, Leſparre, Blaye, Bourg, Libourne, Cadulac, Bazas.
DORDOGNE.	Perigueux, Nontron, Exideuil, Riberac, Teraſſon, Montpont, Sarlat, Montpazier.
CORREZE.	Tulle, Uſſel, Uzerches, Brive.
PUY DE DOME.	Clermont, Riom, Iſſoire, Montaigu.
UPPER LOIRE.	Le Puy, Brioude, Yſſengaux.
ISERE.	Grenoble, Bourgoin, Vienne,
LANDES.	Marſan, Roquefort, Tartas, St, Sever, Aire, Dax.
LOT AND GARONNE.	Agen, Marmande, Tonneins, Nerac.
LOT.	Cahors, St. Cere, Gourdon, Figeac, Lauzerte, Moiſſac.
CANTAL.	St. Fleur, Salers, Aurillac.
LOZERE.	Mende, St. Chely, Marvejols, Florac.
ARDECHE.	Privas, Annonay, Tournon, Largentiere, Viviers.
DROME	Romans, Valence, Creſt, Dic Nions, Le Buis,
UPPER ALPS.	Gap, Briançon, Embrun, Serres.
LOWER PYRENEES.	Pau, Bayonne, Uſtaritz, Mauleon, Oleron.
GERS.	Auch, Condom, Lectour, Nogaro, Plaiſance, Lombes.
UPPER GARONNE.	Toulouſe, Beaumont, Grenade, Muret, Rieux.
TARNE.	Caſtres, Gaillac, Alby, Lavaur.

AVEIRON.

Departments.	*Chief Towns.*
AVEIRON.	Rhodez, Eſpalion, Milhau, St. Afrique, Vabre.
HERAULT.	Montpelier, Lodeve, St. Pons, Beziers.
GARD.	Niſmes, Alais, Uzes, Vigan.
LOWER ALPS.	Digne, Barcelonette, Caſtellane, Monoſque.
UPPER PYRENEES.	Tarbe, Bigorre, Lourde, Baigneres, Argelles.
ARRIEGE.	Foix, Pamiers, Mirepoix, St. Lizier, Taraſcon.
AUDE.	Carcaſſone, Caſtelnaudary, La Graſſe, Quillon.
EAST. PYRENEES.	Perpignan, Prades, Colioure.
MOUTHS of RHONE.	Aix, Marſeilles, Apt.
VAR.	Toulon, Barjols, Brignoles, Frejus, Graſſe, Vence, Nice.
CORSICA.	Baſtia, Calvi, St. Fiorenzo.
MONT BLANC.	Chamberry, Cluſe, St. Jean.

*** The deputies from Corſica continue to ſit in the Convention, though the people of that iſland have ſubmitted to regal government.

304. *Climate, Soil, Plants, and Animals.*] The climate of France is more ſettled than ours; however, if the extremes be as great there, the tranſitions from heat to cold, and from rain to fair weather, appear leſs ſudden and uncertain than thoſe of our iſlands. In the interior parts of the kingdom the air is very temperate and ſalubrious. In the northern parts the winters are intenſely cold; but towards the ſouth, ſo mild that many invalids retire thither from England, at that ſeaſon, to avoid the rigour of our climate. The quality of the ſoil varies greatly, according to it's ſituation, but it is generally very rich, producing corn, flax, wines, oils, and fruits in abundance. They have alſo animal as well as vegetable productions in great plenty in many parts; but though France, however, produces almoſt every luxury of life, the heats in ſome places parch up the ground, and deſtroy the hopes of the year; and hence the poor inhabitants are often obliged to ſubſiſt on cheſnuts and rye. The French, however, have not been inattentive to promote the cauſe of agriculture; they have inſtituted different academies expreſsly for this purpoſe, and propoſed premiums for it's improvement; and they have been particularly attentive to the culture of their vineyards, which yield excellent grapes, from which great quantities of wine are annually made.

305. *Foſſils and Mineral Springs.*] France contains ſeveral veins of metals; in the ſouth there are mines of gold and ſilver, and in the department of the Lower Rhine ſome of ſilver and copper; but both are too expenſive to be wrought to advantage. Alabaſter, marble, jaſper, and coal are alſo found in ſeveral parts; and, in the north-weſt, mines of iron, copper, tin, and lead abound. A mine of ochre has been diſcovered at Berry, which ſerves for melting metals, and dying the fineſt drab-cloths. Excellent turquoiſes, the only precious ſtones France produces, are found in the ſouth; but marble and freeſtone quarries are common in almoſt every province.

France is celebrated for it's mineral waters; but thoſe of Bareges, near the borders of Spain, under the Pyrenean mountains, are now

preferred to all the reſt. At Baguciis, near Bareges, are ſeveral ſalutary mineral waters and baths; as there alſo are at Forges, Sultſbach, and at St. Amand.

There are ſeveral other remarkable ſprings, particularly one near Aigne, which boils violently, and makes a hiſſing noiſe, like water when thrown upon lime; this water has no taſte, but is of a poiſonous quality, and the birds that drink of it expire immediately.

306. *Mountains, Foreſts.*] The principal mountains of France are the Alps, which divide it from Italy; the Pyrenees, which ſeparate it from Spain; Mount Jura, which ſeparates it from Swiſſerland; the Vauge in the north-eaſt; the Cevennes in the ſouth-eaſt; and Mount Dor, in Puy de Dome.

The chief foreſts in France are thoſe of Orleans and Fontainbleau, the former contains fourteen thouſand acres planted with oak, elm, aſh, &c.; the latter is nearly as large. Beſides theſe, there is another near Morchiſmoir, a very conſiderable one. France likewiſe contains great numbers of woods, which are ſome of them large enough to claim the appellation of foreſts.

307. *Rivers, Canals, Lakes.*] The principal rivers in France are the Rhone, the Soanne, the Garonne, the Charente, the Loire, the Seine, the Rhine, the Maeſe, or Meuſe, the Scheld, the Somme, and the Var. There are alſo ſeveral little rivers which it would be tedious to particularize; though they greatly contribute to facilitate the inland navigation, which is alſo greatly improved by canals chiefly planned and executed in the reign of Louis XIV. Regular locks for carrying boats over eminences were firſt erected in this country.

The lakes in France are very inconſiderable. There is one at Iſſaire; a ſecond at La Beſſe; and a third on the top of a hill near Alegre, which vulgar report declares to be bottomleſs.

308. *Commerce, Manufactures.*] The articles of trade in France are it's wines, brandy, vinegar, &c. Fruits, as prunes, prunellos, dried grapes, pears, apples, oranges, and olives; drugs, oils, and chemical preparations; ſilk embroidery, tapeſtry, cambrics, lawns, laces, brocades, and woollen manufactures, in imitation of thoſe of England; paper, parchment, hardware, and toys.

Henry IV. laid the foundation of trade in this country. In 1598 he publiſhed the famous edict of Nantz, which ſecured to the Proteſtants the free exerciſe of their religion; and, having compoſed foreign and civil wars, he applied himſelf, with wonderful attention and ſucceſs, to cultivate the happineſs of his people, by encouraging arts and manufactures. It was he that firſt introduced canals into France, taking the hint from his neighbours in the Netherlands. Before his reign the ſilk manufacture was ſcarcely known in France; but ſo rapidly did it afterwards increaſe, that in the reign of his grandſon, Louis XIV. the city of Lyons alone employed eighteen thouſand looms. However, the unjuſt, and indeed impolitic revocation of the edict of Nantz, the expulſion of the Proteſtants, and the ruinous wars maintained by France, decreaſed the number of manufacturers in a very high degree, ſo that their ſilk manufacture is now rivalled

valled by that of England, where the French refugees found encouragement and protection.

The French trade to the different countries of Europe is extenſive and lucrative. In the Weſt Indies they poſſeſs ſeveral valuable and important iſlands, from which they derive immenſe benefit; in the Eaſt Indies they likewiſe retain ſeveral advantageous ſettlements.

309. *Curioſities, natural and artificial.*] Springs and caverns form the principal natural curioſities of this kingdom. In the foreſt of St. Aubin du Cormier there is a ſubterranean cavern, through which there flows a rapid torrent of water; and another near Nions, from which iſſues a violent wind. In the department of the Lower Rhine, there is a cavern out of which flows an oily liquor; and at Salins, in Jura, are ſeveral remarkable for their ſalt-ſprings. The cave of the Notre Dame de Beaume, in Doubs, is between four and five fathoms broad, and from five to eight deep; and at Beſançon is another above three hundred feet under ground, in the bottom of which is a ſmall river, ſaid to be frozen in ſummer and flowing in winter.

France contains ſeveral curious remains of antiquity, many of which have been traced back even to the times of the Celts; and thoſe of the Romans are numerous in this country. At Orange there is a triumphal arch, and another at Rheims, almoſt entire. At Nîmes many ruins of antiquity are to be found, among which is the temple of Diana, the amphitheatre, and a houſe erected by the Emperor Adrian, called the Maiſon Quarrée. The celebrated Pont du Garde was raiſed by the Roman colony at Nîmes, to convey a ſtream of water over a valley between two mountains for the uſe of that city, and continues to this day in the moſt perfect repair; it conſiſts of three bridges, or tiers of arches raiſed one above another, the height being one hundred and ſeventy-four feet, and the length ſeven hundred and twenty-three. At Arles is a Roman obeliſk of granate, fifty-two feet high, and ſeven in diameter at the baſe, all of one ſtone. Roman temples are frequent in France; and at Lyons are the remains of that built by the ſixty nations in Gaul, in honour of Auguſtus and the Romans. Theſe are the chief public antiquities, and in the cabinets of the curious there are innumerable other ones on a ſmaller ſcale.

310. *Religion, Language.*] For aſſuring the freedom of religious opinions and worſhip, the National Convention, after having heard the report of it's Committees of Public and General Safety and of Legiſlation, decreed ———

I. Conformably to the ſeventh article of the declaration of the rights of man, and the hundred and twenty-ſecond article of the conſtitution, the exerciſe of any worſhip cannot be diſturbed.

II. The republic pays for none.

III. The republic furniſhes no place for the exerciſe of worſhip, nor for the lodging of it's miniſters.

IV. The ceremonies of every worſhip are interdicted out of the limits of the place choſen for their exerciſe.

V. The law does not recognize any miniſter of worſhip; none can appear in public with the dreſs of ornaments attached to religious ceremonies.

VI. Every

VI. Every aſſembly of citizens, for the exerciſe of any worſhip whatſoever, is ſubject to the ſuperintendance of the conſtituted authorities.

VII. No ſign particular to any worſhip can be exhibited in any public place, or externally in any manner whatever. The place appropriated to any worſhip cannot be diſtinguiſhed by any inſcription; no proclamation, or public convocation, can be made to invite the citizens to it.

VIII. The communes, or ſections of communes, cannot, in their collective capacity, purchaſe or rent any place for the exerciſe of worſhip.

IX. No ſuch place can be formed by endowment, or eſtabliſhed by any tax, to defray the expence.

X. Whoever ſhall diſturb, by violence, the ceremonies of any worſhip, or inſult the objects of it, ſhall be puniſhed according to the law of correctional police.

The French language is chiefly compoſed of words radically derived from the Latin, with many of German origin introduced by the Franks. The Academie Françoiſe, expreſsly inſtituted for the purpoſe of improving the language, was alſo of great ſervice to literature; the French from that period began to write with elegance and preciſion; their native language was ſtudied with grammatical minuteneſs, and all it's moſt captivating beauties diſplayed. This elegant and eaſy language has now become the moſt univerſal of all living tongues, and is generally ſpoken in all the courts of Europe.

311. *Schools, Literati, Arts.*] In every part of the French republic, central ſchools are to be eſtabliſhed, according to the population of the different diſtricts. In every diſtrict, containing 200,000 inhabitants, there is to be one central ſchool. In each of theſe ſchools there is to be a profeſſor of mathematics; of experimental phyſic and chemiſtry; of natural hiſtory; of logic; of political economy and legiſlation; of philoſophical hiſtory of the people; of health; of arts and trades; of general grammar; of belles lettres; of ancient languages; of modern languages; and of drawing.

All the profeſſors are to deliver their lectures in the French language. They are to have public conferences monthly on the progreſs of the ſciences, the arts, and literature.

Each central ſchool is to have a public library, a garden, and a cabinet of natural hiſtory; a cabinet of experimental phyſic; and a collection of machines and models for the inſtruction of the pupils in arts and trades.

The wits, the literati, the men of ſcience that France has produced, are numerous, and their names are eſtabliſhed among the learned of Europe. Charlemagne, at an early period, attempted the revival of ancient learning in France, and, in ſome meaſure, removed the Gothic veil; but, till the reign of the polite and learned Francis I. cotemporary with Henry VIII. of England, the learning of the French was little more than a ſubtle quibbling and pedantic ſort of logic. By degrees, however, the ſtudy of the Greek and Roman claſſics gave a new turn to their literary purſuits. The works of the two Stephens, Malherbe,

Malherbe, Balzac, and the ſociety of Port Royal, enriched the French poetry, or improved the proſe; but the reign of Lewis XIV, was the Auguſtan age of France, and produced Racine, Corneille, Moliere, and Boileau, Bourdaloue, Boſſuet, Flechier, and Maſſilon, Deſcartes, and Paſcal. The prince, though illiberal in his religious principles, was an enthuſiaſt for ſciences and arts; his reign produced, beſides other artiſts, ſeveral eminent painters, particularly Pouſſin, Le Brun, and Le Sueur; ſince his time Fenelon, Monteſquieu, Maupertius, D'Alembert, Buffon, Voltaire, and D'Argens have been conſpicuouſly eminent in the reſpective lines they purſued, and the ſciences and arts are ſtill in high cultivation in France.

312. *Hiſtory.*] The Aborigines, or firſt inhabitants of France, were the Celtes or Gauls. The country was called by the Romans, Tranſalpine Gaul, or Gaul beyond the Alps, to diſtinguiſh it from Ciſalpine Gaul, on the Italian ſide of the mountains. Theſe hardy people were often engaged in wars with the Romans. In 721, before the Chriſtian era, they ſacked the city of Rome, under their leader Brennus, and blocked up the citizens in the capitol. Gaul was principally reduced under Julius Cæſar, and remained in the poſſeſſion of the Romans, till the decline of their empire, when it was ſubdued by the Goths, Burgundians, and Franks. The Franks themſelves, who gave it the name of France, or Frankenland, or Freemen's Land, were a collection of ſeveral people of Germany, inhabiting the banks of the Rhine, and though they were often repulſed with great loſs, they repeated their attempts in ſtill greater numbers, till, in the year 388, they cut to pieces a whole Roman army. In the year 418, they were governed by their king, Pharamond, who is ſaid to have compiled the *Salic Law*, whereby females were precluded from the inheritance of the ſovereignty. The Franks and Burgundians, after eſtabliſhing their power, and reducing the original natives to a ſtate of ſlavery, parcelled out the lands among their principal leaders, and by theſe feudal barons, the power of the kings was here, as in the other nations of Europe, before the appointment of ſtanding armies, very much limited or circumſcribed.

The firſt of the French kings, who profeſſed himſelf a Chriſtian, was Clovis. His mind was much affected with the pathetic relation of the ſufferings of Jeſus, and he exclaimed with fervour, "Had I been preſent with my valiant Franks, I would have revenged his injuries". After the death of Clovis, the kingdom was divided among his four ſons, and reunited under his grandſon, Clotaire, in the year 560. After the death of Clotaire, in 562, the government was again divided among his four ſons, and once more reunited under his grandſon, Clotaire. Theſe kings, from Merovins, the third after Pharamond, were ſaid to be of the Merovignian race. A revolution having been brought about, by Charles Martel in 717, his ſon Pepin was the firſt of the Carlovignian race.

In the year 800, Charlemagne, the ſon of Pepin ſwayed the ſceptre of France; he alſo became maſter of great part of Germany, Spain, and Italy, and was crowned king of the Romans, by the pope. This prince, who might without flattery be ranked with the moſt celebrated

characters

characters, had he not ſometimes been influenced by ſanguinary ſchemes of conqueſt, and ſullied with acts of perſecution and tyranny, ſeemed to follow the example of thoſe firſt Romans, who made rural labours a relaxation from the fatigues of war; and the great men of the ſtate, adopting the ſame meaſures, the French had plenty of their own productions to barter, and circulated them throughout the immenſe empire, which was then ſubject to their dominion.

So flouriſhing a ſituation, preſented a freſh allurement to the Normans, to indulge the inclination they had for piracy. They poured forth from Norway, Denmark, and other parts of Scandinavia, and attacked the ſea-coaſts. The ravages they committed, and the cruelties they exerciſed, for a whole century, in the fertile provinces of of France, were ſuch, that the affrighted inhabitants were kept in continual dread of ſlavery or death. About the year 900, they obliged the French, to yield the northern parts of the kingdom, to Rollo their leader, who married the king's daughter, and was perſuaded to profeſs himſelf a Chriſtian, thus more firmly eſtabliſhing the Norman power in France.

Theſe barbarians afterwards gave a king to England, in the perſon of William, duke of Normandy, who ſubdued Harold, the laſt Saxon king, in the year 1066. From William the Conqueror, the kings of England in ſucceſſion, derive their deſcent, and the nobles their inheritance. He, and his ſucceſſors after him, held their territories in France, by inheritance, by conqueſt, and by treaty; theſe varied in their extent at different times, till in 1558, the French conquered Calais, Guiſnes, and all that the Engliſh held in France.

The Carlovignian family continued to reign, till the year 987, when Hugh Capet brought about another revolution, and poſſeſſed himſelf of the regal power, and his ſucceſſors retained it, till it's total extinction, in the depoſition of Louis XVI. in 1792.

The hiſtory of the deſcendants of Capet, and of the Conqueror, affords nearly ſimilar details of violence and cruelty, of civil broils and religious perſecution. Even the laſt of the reigns, in both theſe dynaſties, have been ſtained with blood, in civil as well as foreign wars. While in the ſtruggles of governments with the people, for the ſupport or extenſion of power, and in thoſe of the people, for the ſuppreſſion of it, exceſſes may often be obſerved in both parties; in religious perſecutions, the fault lies entirely on one ſide.

Sometimes large bodies may be perſecuted, or kept under, by a government, from the apprehenſion of their forming a party. But the annals of Engliſh hiſtory, in the preſent day, afford an inſtance of ſuffering for conſcience ſake, wherein no ſuch plea can be brought forward. Two harmleſs, poor women, in a large town in England, are kept in priſon for an act which others, in conſiderable numbers, are performing throughout the year, with impunity, and with general approbation. What would the vindictive, but miſtaken Clovis, "with his valiant Franks," have thought of ſuch a conduct towards helpleſs females! But the days of chivalry are paſt, or the knights are otherwiſe engaged, than in the protection of injured innocence.

Theſe women, like the Friends or Quakers, profeſs to have an objection to marrying after the manner of the political eſtabliſhment, and accordingly have entered into covenant, after their ſimple and ancient manner. They have been excommunicated by the eccleſiaſtical power, and incarcerated by the civil, in this boaſted land of liberty, and their days have been conſumed in the gaol at Nottingham, during more than eight tedious years. Others they have ſeen led out to execution, to exile, or to liberty; but there has been no releaſe for them! The huſband of one of them has handed in an account of their caſe to the King at Windſor, and it has alſo been brought before parliament; but theſe men have not felt the diſtreſsful *tedium* of a dungeon; what ſympathy can be expected from them? Thoſe who can hear of the ſufferings of black people without compaſſion, will only exert themſelves for white women, from motives of gallantry, pride, or ſelf-intereſt. The ſufferers may continue to ſhed unavailing tears.

Will not the examples, which have paſſed in this country of later times, ſerve as warnings to the other nations of the earth? It is but a few years ſince the Monarque, the Clergé, the Nobleſſe, and the other privileged orders were in the zenith of their power; but how awful is the reverſe they have experienced ſince that time.

The revolution in France has generally been exhibited to us, through ſuch diſtorting mediums, that it is difficult to obtain a diſtinct view of it; and whatever good may ariſe from it in the iſſue of things, whatever reformations it may already have effected, the horrors that accompanied it, have been diſtreſsful in the extreme.

The late king ſucceeded his grandfather, Louis XV. in 1774. He ſeemed to ſhew early indications of an enlarged and liberal mind. Contrary to the policy and prejudice of the old court, he placed Necker, a proteſtant, and a native of Swiſſerland, at the head of the French finances, by whoſe economic adminiſtration, the ſuppreſſion of coſtly and ſinecure eſtabliſhments, and by ſacrifices, which the king himſelf made of his property, the burthens of the people were conſiderably alleviated. He alſo encouraged the promotion of ſcience, fitting out ſeveral veſſels on nautical and aſtronomical diſcoveries, and charging all his naval officers, by a circular letter, when at war with the Engliſh, to abſtain from all hoſtilities againſt the ſimilar expeditions of the enemy, and treat the ſhips as neutral veſſels.

His interference in the American revolution ſeems to have haſtened the fall of monarchy in France. Arbitrary at home, he ſent his armies to fight for liberty abroad, and the expences hereby incurred were more than the revenues of the kingdom could ſupport. Neckar was diſmiſſed from the adminiſtration of public affairs, and the finances of the nation were on the point of being entirely ruined, when, near the cloſe of 1785, the edict for regiſtering a loan amounting to 3,330,000l. was preſented to the parliament of Paris. The people murmured, and the parliament remonſtrated. The king, however, ſignified to the ſelect deputations, that were commiſſioned to convey to him their remonſtrances, that he expected to be obeyed without farther delay. The edict was regiſtered on the enſuing day, but accompanied with a reſolution, importing that public economy was the genuine

only genuine ſource of abundant revenue, the only means of providing for the neceſſity of the ſtate, and reſtoring that credit which borrowing had reduced to the brink of ruin. Upon this the king required the attendance of the grand deputation of parliament; he eraſed from their records the reſolution that had been adopted, and declared himſelf ſatisfied with the conduct of Calonne, his comptroller-general.

The ſtates-general had not met ſince the year 1614; another had occaſionally been ſubſtituted in it's room, diſtinguiſhed by the title of the notables, or men of note, conſiſting of a number of perſons from all parts of the kingdom, chiefly ſelected from the higher orders of the ſtate, and nominated by the king himſelf. The aſſembly had been convoked by Henry IV. and again by Louis XIII. and was now once more convoked by Louis XVI. in the beginning of 1787. The ancient nobility and clergy had ever been free from all public aſſeſſment; the crouds of new nobleſſe, who had purchaſed their patents, were alſo free, with their poſterity; and the magiſtrates likewiſe, throughout the kingdom, enjoyed their ſhare of exemptions; ſo that the whole weight of the taxes fell on thoſe who were leaſt able to bear them.

The object of the miniſter was to diminiſh the load of the public burthens, on the lower, and moſt uſeful, claſſes of the people, by rendering the taxes general. A clamour was raiſed againſt him on account of the deficiency of the public money, in which the nobility, clergy, and magiſtracy united. Calonne, finding it impoſſible to ſtem the torrent, reſigned his place, and retired to England. The notables proceeded in their enquiries, and it was now ſuggeſted that an aſſembly of the ſtates ſhould be called, as the notables were not competent to impoſe a new tax. As the deliberations of the notables were not carried on in ſecret, this propoſal was inſtantly circulated through the capital. The notables were ſoon after diſſolved, and returned to their reſpective abodes, to propagate the free opinions to which their free diſcuſſions had given birth. They were nevertheleſs prevailed upon, before their breaking up, to recommend a land and ſtamp-tax, and the edicts were ſent to the parliament to be enregiſtered, who oppoſed it. The pageantry of the court was now diſplayed, to intimidate them at what was termed a bed of juſtice, and the edicts were enregiſtered by a mandate of the king. The parliament, on the day after the king had held his bed of juſtice, entered a formal proteſt againſt the conceſſion that had been extorted from them, and declared, that the right of ſanctioning the impoſt belonged only to the ſtates-general, the convocation of which they demanded.

Since the commencement of the preſent diſcontents, the capital had been gradually filled with conſiderable bodies of troops; and, about a week after the parliament had entered the proteſt, an officer of the French guards, with a party of ſoldiers, went, at break of day, to the houſe of each individual member, to ſignify to him the king's command, that he ſhould immediately get into his carriage, and proceed to Troyes, a city of Champagne, about ſeventy miles from Paris, without writing or ſpeaking to any perſon out of his own houſe before his departure. Theſe orders were ſerved at the ſame inſtant,

and before the citizens of Paris were acquainted with the tranſaction, the parliament were already on the road to the ſcene of their baniſhment.

After a month's exile they were recalled. They were then deſired to regiſter a loan, at which they heſitated; till the king came to the houſe, and held a royal ſeſſions. The edicts were now regiſtered, but the Duke of Orleans proteſted, in the preſence of the king, againſt the legality of the proceeding. The parliament proteſted againſt the legality of the ſeſſion itſelf, but to no purpoſe. The Duke of Orleans, with four others, were baniſhed; the king called for the journals of the houſe, deſtroyed the proteſt, and forbad it to be inſerted again. Great clamours were raiſed by the baniſhment of the Duke of Orleans, and the other members of parliament; remonſtrances were preſented by the parliaments of Paris, Bourdeaux, and Rennes, but the exiles were not recalled, till the ſpring of 1788.

No alternative remained now to Louis but to plunge the country into all the calamities of civil war, or to comply with the wiſhes of the people, and re-eſtabliſh the ſtates-general. In the autumn of 1788, an *arret* was publiſhed, which appointed the meeting of the ſtates-general in the ſpring of 1789; at the ſame time every ſtep was taken to ſecure the favourable opinion of the public. New arrangements took place in the adminiſtration, and Necker, whom the confidence of the people had long followed, was again introduced into the management of the finances; the torture, which, by a former edict, had been reſtricted in part, was entirely aboliſhed; every perſon accuſed was allowed the aſſiſtance of counſel, and permitted to avail himſelf of any point of law; and it was decreed, that, in future, ſentence of death ſhould not be paſſed on any perſon, unleſs the party accuſed ſhould be pronounced guilty by a majority at leaſt of three judges.

Before we enter upon the proceedings of the ſtates-general, we may take a curſory view of the ſituation of the French people, and of their manners and character, as exhibited by an animated writer who has ſketched on the ſpot, though we cannot join with her in indiſcriminate cenſure on large bodies of people. The expatriated clergy of France, who have reached this country, are, as well as the other emigrants, liberal, modeſt, and unaſſuming men.

"Though it may be difficult to collect all the parts of the feudal chain, which linked the deſpotiſm of ſixty thouſand nobles, who not only exerciſed all the tyranny that the ſyſtem authoriſed, but countenanced the ſtill more extenſive depredations of their numerous dependents, we need not enter into deep reſearches to prove, that the oppreſſions, of which Frenchmen ſo loudly complained, were a mighty and inſupportable load. What, indeed, could equal the ſlavery of the poor huſbandman; not only pillaged by the tythe and game laws, but even obliged to let whole flocks of pigeons devour his grain, without daring to deſtroy them, becauſe thoſe pigeons belonged to the chateau; and afterwards forced to carry the ſcanty crop to be tolled at the mill of *monſeigneur*, which, to follow a Frenchman's ſtaff of life through all it's ſtages of taxation, muſt then be baked at the privileged oven?

"When

"When chaſed from the country, of which the chief charm is independence, by ſuch worrying reſtraints, a man wiſhed to purſue any occupation in a town, he muſt previouſly purchaſe a patent of ſome privileged perſon, to whom this tax had been ſold by a farmer-general, or the paraſite of a miniſter.

"The military, a peſt in every country, were here alſo all noble, and leagued with a hundred thouſand privileged perſons, of different deſcriptions, to ſupport their prerogatives of receiving a revenue, which was a dead weight on agriculture; whilſt they were not obliged, in a direct way, to advance any thing towards defraying the public expenditure.

"The gabelle, the corvée, the obligation to ſupply horſes to tranſport the troops from one part of the kingdom to another, even when moſt neceſſary at the farm; clogs on huſbandry, equally unjuſt and vexatious; were rivetted only on the ankles of labour.

"Beſide which, France maintained two hundred thouſand prieſts, to whoſe empire every conſideration of juſtice and political improvement was ſacrificed.

"Added to evils of this magnitude, there were the canker-worms that lurked behind monaſtic walls. For ſixty thouſand perſons, who, by renouncing the world, cut the thread of nature, ſerved as a prop to the prieſthood that enjoyed more than a fourth of the produce of all France; independent of the eſtates it poſſeſſed, which were immenſe.

"There were alſo the farmers-general, with their army of fifty thouſand collectors, who, by their manner of levying and amaſſing the revenue, gave an additional gripe to an oppreſſion the moſt wringing that could be invented, becauſe it's very principles led to the exerciſe of the vileſt peculation; and impunity was ſecured by a coalition of robbers, that multitude of men in office, whoſe families and flatterers all lived, and fattened on the ſpoil of their continual war with juſtice. And, whilſt the intereſt of the people was continually ſacrificed by the parliaments, the inferior courts of law were ſtill more venal, becauſe compoſed of thoſe litigious practitioners, who thicken like ſpawn on putrid bodies, when a ſtate is become corrupt.

"Such were the grievances!—Such the impoſition, 'that, taken together, levied a tax on the kingdom,' ſays Rabaud, 'which the imagination is afraid to calculate.' This body of men we may conſider as conſtituting France, till the great bulk of the people, who were ſlaves and dwarfs, burſting their ſhackles, and riſing in ſtature, ſuddenly appeared with the dignity and pretenſions of human beings.

"Six millions of men were now in motion to chuſe deputies for the ſtates-general, and prepare their inſtructions; and in theſe aſſemblies the commons commenced their political career, diſcuſſing, on a new ground, ſubjects that quickly became the only intereſting topics throughout the kingdom.

"In ſome few places, the three orders, meeting together, ſeemed to decide the important queſtion reſpecting the equality of the repreſentatives; but, in general, the firſt two chambered themſelves, to guard tenaciouſly their trembling prerogatives; and the third, with a cautious jealouſy, to demand the redreſs of grievances, which they could ſcarcely

ſcarcely expect the others to denominate by ſo harſh a name. Great decorum reigned in the chamber of the nobility, though ſplit into various ranks; the lower of which had ill brooked, for a long time, the overbearing inſolence of thoſe princes and peers, who haughtily conteſted every ſtep of honour. Still all agreed to reſign their pecuniary privileges, and joined, in vague terms, with the public voice, to demand a conſtitution.

"The ſame diviſions produced more viſible effects amongſt the clergy; for conſiderable tumults were the conſequence of the ſtruggle of the pariſh-prieſts, the commons of this order, to have their due weight in the ſcale; and their ſucceſs ſeemed a ſure prognoſtic of the turn things were going to take in the nation. In fact, every dioceſe was become the centre of a petty deſpotiſm, more galling than the great, becauſe at each man's elbow; and the pariſh-prieſts, who were not in the high road to preferment, moſt oppreſſed, led the van in the new conteſt for equality; whilſt diſreſpect for the mitre paved the way to a contempt for the crown.

"Indiviſible as had hitherto been the clerical body, the indecent pride of the dignitaries of the church, at this juncture, produced the ſchiſm, which induced the majority of the clergy to ſide with the people; whilſt only a ſmall minority of the nobility deſerted the common cauſe of the party. The pariſh-prieſts, in fact, appeared, from the time of their election, a corps in reſerve for the third eſtate; where they ſought for the conſequence they were denied in their own chamber, finding themſelves more nearly allied by intereſt, as well as inclination, to this order than to the rich paſtors. The electing of ſo many of the inferior clergy, in ſpite of the menaces and intrigues of their numerous ſuperiors, was a ſtriking proof that the power of the church was in the wane, and that the people were beginning to feel their own ſtrength. The diſturbances at this time ſeemed the rumbling of the approaching tempeſt; and orators, formed in theſe provincial aſſemblies, to figure afterwards in national, were encouraged by applauſe to perſevere.

"Having the ſame mark in view, an uniformity of ſentiment breathed throughout the inſtructions of the third eſtate; principally levelled at the privileges of the two other orders; for on theſe abuſes the moſt popular publications had hinged, rivetting conviction in the minds of the ſuffering people.

"With one voice the whole nation called for a conſtitution, to eſtabliſh equal rights, as the foundation of freedom; and to guard againſt the depredations of favourites, whether they attacked perſon or property. So that the liberty of the preſs, and the abolition of *lettres de cachet*, were, in general, the articles that followed the poſitive injunction of confining the right of taxation to the repreſentative body of the nation. The inſtitution of juries was recommended, and the deputies were requeſted to take into conſideration, whether the number of capital puniſhments could not be leſſened, or totally aboliſhed; remarks were made on the evil tendency of lotteries, and on the vexatious impediments thrown in the way of trade, by barriers and

monopolies. In ſhort, againſt the tyranny and injuſtice of the court, the nobility, and the clergy, all remonſtrated; unmaſking one ſpecies of oppreſſion, and dilating another; yet, among theſe numerous animadverſions, prayers and praiſes alone were addreſſed to the king; and nothing like a glance at republicaniſm rendered their ſincerity doubtful.

"To divert the gathering ſtorm from breaking over their heads, the court determined to reſt all their hopes on the aid of the foreign troops, which they were collecting from all parts of the kingdom, not caring to truſt to the French ſoldiery, who were aſſuming the character of citizens. Mean while, with the uſual chicanery of courtiers, they continue to amuſe the deputies, till they could cruſh them at once; and effectually blaſt the hopes of the people.

"The deputies, however, who were moſtly collected from remote parts of the country, had become, in their villages, the hale ſons of independence. The courtiers, deſpiſing their ruſticity, and ſtill conſidering the people as cyphers, continued to diſcharge the uſual routine of office, by adjuſting the ceremonials of reception; all which tended to inſult the third eſtate, and ſhow, that the deputies of the privileged orders were ſtill to be treated as if they were a diſtinct claſs of beings. The nobility were gaudily capariſoned for the ſhow, whilſt the commons were ſtupidly commanded to wear the black mantle.

"Before the meeting of the ſtates-general, the queſtion that was firſt to agitate the various intereſts, whether they were to vote by orders or poll, had been ſo thoroughly diſcuſſed, that it made, in many of the inſtructions, one of the foremoſt articles. For it was evident to the nation, were the different orders to aſſemble in their ſeparate chambers, each inveſted with the old privilege of putting a negative on the deciſions of the other two, that they ſhould be gulled with promiſes of reform, whilſt the coffers of the court were repleniſhed with a ſhow of legality."

The aſſembling of the ſtates general preſented a new era in the government of France. They met at Verſailles, in the ſpring of 1789, and aſſembled in three ſeparate chambers, or rather the clergy and the ariſtocracy withdrew each into a ſeparate chamber. The majority of the ariſtocracy claimed what they called the privilege of voting as a ſeparate body, and of giving their conſent, or their negative in that manner; and many of the biſhops, and the high-beneficed clergy claimed the ſame privilege on the part of their order, but the *Tiers Etat* diſowned any knowledge of artificial orders and artificial privileges. After various altercations on this head, the *Tiers Etat*, or commons, as they were then called, declared themſelves "the repreſentatives of the nation; and that the two orders could be conſidered but as deputies of corporations, and could only have a deliberative voice when they aſſembled in a national character with the national repreſentatives." On carrying this motion, the national repreſentatives, as had been concerted, ſent an invitation to the two chambers, to unite with them in a national character, and proceed to buſineſs. A majority of the clergy, chiefly of the pariſh prieſts, withdrew from the clerical chamber, and joined

joined the nation; and forty-five from the other chamber, joined in like manner. In a little time, the numbers increaſed from forty-five to eighty, and ſoon after to a greater number; and, at length, the reſt of them quitted their chambers, and united with the National Aſſembly.

The minds of the French had long been agitated by various rumours; the unanimity that had been expected from the different orders of the ſtates was extinguiſhed by the jarring pretenſions of each; and their mutual jealouſies were attributed, by the ſuſpicions of the people, to the intrigues of the court, who were ſuppoſed, already, to repent of the haſty aſſent to their aſſembling. A dearth, that pervaded the kingdom increaſed the general gloom and diſcontent, and the people, preſſed by hunger and inflamed by reſentment, were ripe for revolt. The ſovereign alſo, equally impatient of the obſtacles he inceſſantly encountered, could not conceal his chagrin; the influence of the queen in the cabinet was eſtabliſhed, and was attended by the immediate removal of Necker and the miniſtry, who were favourable to the revolution.

The change of miniſtry was conſidered as the prelude of hoſtilities, and immediately, on the news of it reaching Paris, all the play-houſes, and places of entertainment, ſhops and houſes, were ſhut up. The demolition of the Baſtile ſoon followed this awful criſis.

The National Aſſembly, at the time of taking this caſtle of deſpotiſm and horror, was ſitting at Verſailles, twelve miles from Paris. It was about a week before the riſing of the Pariſians, and their taking the Baſtile, that it was diſcovered that a plot was forming, at the head of which was the Count d'Artois, the king's youngeſt brother, for demoliſhing the National Aſſembly, ſeizing it's members, and thereby cruſhing, at once, all hopes and proſpects of forming a free government.

The forces deſtined for this ſervice, were chiefly the foreign troops in the pay of France, who, for this particular purpoſe, were drawn from the diſtant provinces, where they had been ſtationed. When they were collected, to the amount of between twenty-five and thirty thouſand, it was judged time to put the plan in execution. The guards of Broglio ſurrounded the hall where the aſſembly ſat, ready, at the word of command, to ſeize their perſons, as had been done the year before, to the parliament of Paris.

The archbiſhop of Vienne, too old to undergo the ſcene that a few days, or a few hours, might bring forth. A man of mere activity, and greater fortitude was thought neceſſary; and the National Aſſembly choſe Fayette vice preſident. At the moment that this ſtorm was pending, a declaration of rights was haſtily drawn up by him, and agreed upon, and adopted by the National Aſſembly, with the view, that if they ſhould fall in the threatened deſtruction, that then ſurrounded them, ſome traces of their principles might have the chance of ſurviving the wreck.

At length the foreign troops began to advance towards the city. The Prince de Lambeſc, who commanded a body of German cavalry, approached by the palace of Louis XV. which connects itſelf with ſome of the ſtreets. In his march, he inſulted, and ſtruck an old man with his ſword. The French are remarkable for their reſpect to old

age, and the inſolence with which it appeared to be done, uniting with the general fermentation they were in, produced a powerful effect, and a cry of, To arms! to arms! ſpread itſelf inſtantly over the city.

Near where the Prince de Lambeſc was drawn up, there were large piles of ſtones, collected for building the new bridge, and with theſe the people attacked the cavalry. A party of the French guards, upon hearing the firing, ruſhed from their quarters, and joined the people; and night coming on, the cavalry retreated.

The night was ſpent in providing themſelves with every ſort of weapon they could make or procure: guns, ſwords, ſmiths hammers, carpenters axes, iron crows, pikes, halberts, pitch-forks, ſpits, clubs, &c. &c. The incredible numbers in which they aſſembled the next morning, and the ſtill more incredible reſolution they exhibited, embarraſſed and aſtoniſhed their enemies. Little did the new miniſtry expect ſuch a ſalute. Accuſtomed to ſlavery themſelves, they had no idea that liberty was capable of ſuch inſpiration, or that a body of unarmed citizens would dare to face the military force of thirty thouſand men. Every moment of this day was employed in collecting arms, concerting plans, and arranging themſelves into the beſt order, which ſuch an inſtantaneous movement could afford. Broglio continued hovering round the city, but made no farther advances this day, and the ſucceeding night paſſed with as much tranquillity as could be expected.

But defence only was not the object of the citizens. They had a cauſe at ſtake, on which depended their freedom, or their ſlavery. They every moment expected an attack, or to hear of one made on the National Aſſembly; and in ſuch a ſituation, they conſidered the moſt prompt meaſures the beſt. The object that preſented itſelf was the Baſtile; and the eclat of carrying ſuch a fortreſs in the face of ſuch an army, could not fail to ſtrike a terror into the new miniſtry, who had ſcarcely yet had time to meet. By ſome intercepted correſpondence this morning, it was diſcovered, that Dufflefſelles, the Mayor of Paris, who appeared to be in the intereſt of the citizens, was betraying them; and from this diſcovery, there remained no doubt that Broglio would reinforce the Baſtile the enſuing evening. Fleſſelles was ſeized by the people, and fell the firſt victim to general indignation: his head was ſtruck off, and borne on a lance, amidſt crowds of the enraged populace.

There was, adjoining to the city, a large magazine of arms depoſited in the Hoſpital of Invalids, which the citizens ſummoned to ſurrender; and which, after a faint reſiſtance, ſurrendered. The ſupplies of arms and ammunition, which had been provided for their ſubjugation, were turned againſt the crown.

The Baſtile was inſtantly inveſted by a mixed multitude, compoſed of citizens and ſoldiers, who had joined the popular banner. De Launay, who commanded in the caſtle, diſplayed a flag of truce, and demanded a parley; but, abuſing the confidence which theſe ſignals inſpired, he diſcharged a heavy fire from the cannon and muſquetry of the place upon the beſiegers, and made a conſiderable carnage. Far form

from intimidating, he only augmented, by ſo treacherous a breach of faith, the rage of an incenſed populace. They renewed their exertions, with a valour raiſed to frenzy, and were crowned with ſucceſs. The Baſtile, that awful engine of deſpotiſm, whoſe name alone diffuſed terror, and which for many ages had been a place of ſilence and deſpair, was entered with ſhouts by the victorious aſſailants. De Launay, ſeized and dragged to the "Place de Greve," was inſtantly diſpatched, and his head carried in triumph through the ſtreets of Paris.

In this priſon were found the moſt horrible engines, for putting to the ſevereſt tortures, thoſe unhappy perſons, whom the cruelty or jealouſy of deſpotiſm had determined to deſtroy. An iron cage, about twelve tons in weight, was found with the ſkeleton of a man in it, who had probably lingered out a great part of his days in that horrid ſituation. Among the priſoners releaſed by it's deſtruction were a Major White, a Scotſman, and the Count de Lorges. The firſt appeared to have his intellectual faculties almoſt totally impaired, by the long confinement and miſeries he had endured; and, by being unaccuſtomed to converſe with any human creature, he had forgotten the uſe of ſpeech, and the ſqualid appearance of the latter, his white beard which deſcended to his waiſt, and above all, his imbecility, reſulting probably from the effect of an impriſonment of thirty-two years, exhibited a a ſpectacle ſcarcely leſs affecting. With the Baſtile expired the deſpotiſm of the French princes, which long preſcription, ſubmiſſion, and military ſtrength, ſeemed to render equally ſacred and unaſſailable: which neither the calamities of the cloſe of Louis XIV.'s reign, the profligacy and enormities of the ſucceeding regency, nor the ſtate of degradation into which the monarchy ſunk, under Louis XV. had ever ſhaken.

The next morning after the capture of the Baſtile, the monarch appeared in the national aſſembly, but without the pomp and parade of deſpotiſm. His addreſs was affectionate and conſolatory. "He lamented the diſturbances at Paris; diſavowed all conſciouſneſs of any meditated attack on the perſons of the deputies; and added, that he had iſſued orders for the immediate removal of the troops from the vicinity of the metropolis.—An expreſſive ſilence firſt pervaded the aſſembly, which preſently was ſucceeded by a burſt of applauſe and acclamation. On the 16th, the king having intimated to the National Aſſembly, his intention of viſiting Paris the following day, he accordingly, on the morning of the 17th, left Verſailles in a plain dreſs, and with no other equipage, than two carriages, with eight horſes each; in the firſt of which he rode himſelf; a part of the national aſſembly in their robes accompanied him on foot; and the militia of Verſailles compoſed his only guard, till the proceſſion arrived at the Seve, where they were relieved by the Paris militia, with Fayette at their head; and from this place the ſuite of the monarch amounted to about 20,000 men. The progreſs was remarkably ſlow; and no ſhout was to be heard but *Vive la nation!* Baily, on preſenting the keys of the city, addreſſed the king in a ſhort ſpeech, the exordium of which was:—"Theſe, ſir, are the keys which were preſented to Henry IV. He came

came to reconquer his people; it is our happineſs to have reconquered our king." On receiving the complimentary addreſſes of the mayor, &c. the king exclaimed, with an air of pathetic emotion, which ſcarcely allowed him utterance—"My people may always rely upon my affection." He received from the hands of the mayor the national cockade; and, when he ſhewed himſelf at the window, with this badge of patriotiſm, the ſhout of *Vive le roi!* reſounded from one extremity to the other. On the return of the king to Verſailles, the citizens, almoſt intoxicated with joy, ſurrounded his carriage; his countenance, which in the morning bore the aſpect of melancholy, was now cheerful and ſmiling; and appeared ſincerely to partake in the general ſatisfaction.

The events which followed are, by the candid of all parties, allowed to be enveloped in an almoſt impenetrable veil of obſcurity. An incident, which occurred at Verſailles, contributed to excite a moſt unhappy commotion. On the firſt of Tenth-month an entertainment was given by the *gardes-du-corps*, or king's body-guards, to the officers of a regiment of Flanders, who had juſt joined them in the ſervice of guarding the monarch. Several of the officers of the national guard, with others of the military, were invited. At the ſecond courſe four toaſts were given—"the king, the queen, the dauphin, and the royal family." "The nation" was propoſed, but, according to a number of witneſſes, expreſsly rejected by the *gardes-du-corps*. The queen, having been informed of the gaiety of the ſcene, perſuaded the king, who was juſt returned from hunting, to accompany her, with the heir apparent, to the ſaloon. The ſoldiers drank the health of the king, the queen, and the dauphin, with their ſwords drawn; and the royal gueſts bowed and retired. The entertainment, which had hitherto been conducted with ſome degree of order, now became a ſcene of entire confuſion. Nothing was omitted to inflame the paſſions of the military. The muſic played the favourite air—"O Richard, O my king, the world abandon thee!" the women of the court diſtributed white cockades, the anti-patriot ſign; and even ſome of the national guard, it is ſaid, had the weakneſs to accept them.

During theſe tranſactions, the city of Paris was afflicted with all the evils of famine. At this juncture the news arrived of the dreadful banquet at Verſailles, with every circumſtance greatly magnified. Early on the morning of the 5th, a woman ſallied out from the quarter of St. Euſtacia, and entering the *corps-de-garde*, and, ſeizing a drum, paraded the adjacent ſtreets, beating an alarm, and exciting the people, by clamours reſpecting the ſcarcity of bread. She was ſoon joined by a very numerous body, chiefly of women, to the amount of 800, who proceeded to Verſailles, where the king, upon hearing their complaints, ſigned an order for bringing corn from Senlis and de Lagni, and for removing every obſtacle which impeded the ſupply of Paris. This order was reported to the women, and they retired with gratitude and joy.

This band was no ſooner diſperſed, than it was ſucceeded by another. The National Aſſembly continued ſitting, but the ſeſſion was tumultuous,

tumultuous, and interrupted by the ſhouts and harangues of the Pariſian fiſhwomen, who filled the galleries; their applauſe was mingled with affecting murmurs and complaints, the multitude crying out, that they were actually ſtarving, and that the majority of them had eaten nothing for upwards of twenty-fours. The preſident, therefore, humanely ordered, that proviſions ſhould be ſought for in every part of the town, and the hall of the aſſembly was the ſcene of a miſerable, ſcanty, and tumultuous banquet. Indeed, ſuch was the dreadful famine, that the horſe of one of the *gardes-du-corps* being killed in a tumult, he was immediately roaſted, and greedily devoured by the mob.

Darkneſs, and a deluge of rain, added to the horrors of the night. The wretched multitudes, who had travelled from Paris, were expoſed, almoſt famiſhed, to the inclemencies of the weather, in the open ſtreets: within the caſtle all was trepidation: nothing was to be heard from without but cries of diſtreſs, or the voices of enraged multitudes, demanding the lives of the queen and the *gardes-du-corps*. Towards midnight, however, all appeared tolerably ſtill and peaceable, when the beating of the drums, and the light of innumerable torches, announced the approach of the Pariſian army.

The day began to break at about half paſt five; and, at this period, crowds of women, and other deſperate perſons, breathing vengeance, advanced to the caſtle, and an immenſe crowd found it's way into every part.

When the tumult had ſomewhat ſubſided, the royal family ventured to ſhew themſelves at a balcony; they received the moſt lively acclamations of reſpect from the ſoldiers and the people. A ſingle voice, or a few voices, exclaimed—"The king to Paris;" and this was inſtantly followed by an univerſal acclamation, enforcing the ſame demand. The king addreſſed them; "You wiſh me to go to Paris—I will go, on the condition that I am to be accompanied by my wife and children." He was anſwered by reiterated acclamations of *Vive le roi!* It was two in the afternoon before the proceſſion ſet out. During the progreſs, all was gaiety and joy among the ſoldiers and ſpectators; and ſuch was the reſpect in which the French nation ſtill held the name and perſon of their king, that the multitude were ſuperſtitiouſly perſuaded that the royal preſence would actually put an end to the famine. On his arrival, the king was congratulated by the municipality, and declared his approbation of the loyalty which the city of Paris manifeſted.

The ſpirit of the nation being ſo entirely averſe from the principles of the high ariſtocratic party, that numbers of them, particularly the king's two brothers, and ſome of the firſt rank and fortune, took refuge in foreign countries, where they applied themſelves indefatigably to the purpoſe of exciting war againſt their country.

In 1790, on the anniverſary of the taking of the Baſtile, a grand confederation of the repreſentatives of the nation, the king, the ſoldiery, and all who were in oſtenſible ſituations, was held in the *Champs de Mars*, the place where the troops had rendezvouſed the preceding year, to overawe the capital. Here they renewed their engagements of fidelity to the new conſtitution.

In the ſummer of 1791, the royal family attempted to quit the country by flight, but they were arreſted at Varennes, and brought back to Paris. A new conſtitution was preſented to the king, in the autumn of this year, who accepted it; and, ſoon after this, the ſecond national council aſſembled.

In the year 1792, the war openly commenced between the French and the Confederates. Such, for a time, was the ſucceſs of the latter, that France ſeemed ready to be overwhelmed; but before the cloſe of the year, the ſcene was reverſed, the French driving out the enemy from their country, and obtaining poſſeſſion of the greater part of the Netherlands. While the combined armies were ſucceſsful, and their approaches moſt alarming: the capital of France was alſo agitated with the fears of internal plots and conſpiracies: and the confuſion and ſlaughter, which took place in that city, were dreadful. The vaunting Duke of Brunſwick, general of the combined armies of Auſtria and Pruſſia, publiſhed at Coblentz, a declaration to the inhabitants of France, conceived in the moſt haughty and preſumptuous terms; he declared his intention of putting a ſtop to the anarchy which prevails in France, and of reſtoring the king to his power; and yet he afterwards expreſſes his deſign not to interfere in the internal government. He conſidered France as a conquered country, and directions were given to the magiſtrates, national guards, and inhabitants at large, and that the city of Paris was threatened to be given up to military execution, in caſe the leaſt outrage ſhould be offered to the king, queen, or royal family.

On the 10th of Eighth-month, a dreadful inſurrection took place, wherein about 8000 loſt their lives on both ſides. The ſcene of action was the Thuilleries, which was guarded by foreign troops, and the king's particular friends, as well as the national guards, and the place was aſſailed, and carried by the populace of Paris, and the Marſellois. The royal family retreated to the hall of the Legiſlative Aſſembly, before the attack begun; but they were ſcarcely ſeated, when a dreadful cannonading ſhook the aſſembly. Some members roſe from their ſeats, and appeared diſpoſed to ſeek their perſonal ſafety by flight; but the preſident calling them to order, deſired them to recollect that every man was at his poſt. The National Aſſembly proceeded to deliberate, and a ſeries of decrees were drawn up, and paſſed "declaring the executive power ſuſpended; the authority given by the conſtitution to Louis XVI. from that moment revoked; and inviting the people to meet in primary aſſemblies, and to form a National Convention," which by a ſubſequent decree was appointed to meet on the 20th of the enſuing month.

On the 2d of Ninth-month, and on the enſuing day alſo, great numbers of priſoners were put to death in Paris, on very ſummary trials, and before ſelf-conſtituted judges. Thoſe whom the jury convicted, were cut to pieces with ſabres, or pierced through with innumerable pikes. Such as were acquitted, were declared under the protection of the nation, and ſafely conducted home. The number of thoſe who were killed, amounted to more than a thouſand, ſeveral of whom, were nonjuring prieſts, who were put in priſon, to be detained till an

opportunity ſhould occur, of putting in force their ſentence of baniſhment.

The National Convention met on the 24th; and, on the day of their aſſembling, decreed the abolition of royalty in France; and the following day, it was ordered that all public acts ſhould de dated from that era, or according to the year of the republic.

The trial of the fallen king commenced on the 11th of Twelfth-month, and he was executed on the 21ſt of Firſt-month, 1793, and he ſeemed to meet the awful event with confidence or reſignation. In the autumn of the ſame year, his afflicted widow ſuffered death in like manner.

How dreadful the reverſe which this poor couple experienced! What a leſſon for prevaricating governors and kings does this melancholy inſtance of fallen greatneſs afford! and what a proof of the remark, that the intrigues of courts are unfavourable to good principles! The crimes of which Louis was convicted, were deceiving the nation with falſe promiſes and profeſſions, while he ſecretly gave aid to the ex-princes, who were conſpiring againſt the country. Yet it ſeems generally thought, that had the unhappy monarch moved only in private life, he would have ſupported the character of an honeſt and good-natured man. The queen has been accounted more guilty than the king; it has been thought that he was principally actuated by her advice, in every act of conſpiracy againſt the liberty of the French; whether this was the caſe or not, the meaſure of her ſufferings ſeems to have far exceeded that of all the other victims, whether falling under the vindictive ſword of the law, the dagger of the aſſaſſin, or the frantic rage of an impetuous populace. Her accuſers blended with the charge of political crimes, that of an act, which the delicacy of the female character would generally revolt at attempting to diſcuſs. On the horror-ſtriking, heart-piercing, accuſation of being criminal with the little boy, her only ſon, ſhe vouchſafed only to reply by an appeal to her ſex, to the feelings of the mother.

The conteſt between two different parties in the convention, the Gironde, or the Moderates, and the Mountain, or the Anarchiſts, as they were called, is thought to have accelerated, if it did not entirely effect, the death of the king. The Mountain Party, and the enraged populace, who, many of them, loſt near connections or friends in the inſurrection, were clamorous for his trial; the Gironde party, deſirous of ſaving his life, wiſhed to gain time by protraction or delay; and, had they been conſiſtent and unanimous, it is thought that they might have ſaved the life of Louis, and eventually their own; but the habits of fineſſe and intrigue, in which the majority of them had been educated, under the old court, diſpoſed them rather to the uſe of ſubterfuges and ſtratagem, than to an open and firm conduct.

The people, inſtead of attributing the conduct of the Girondine party, or the Briſſotines, as they were alſo called, to motives of humanity, were eaſily perſuaded that their principles had been corrupted by bribes from thoſe powers whom they ſuppoſed intereſted on behalf of the unhappy and fallen monarch. As much of the diſcontent among the people was ſuppoſed to be excited by the inflammatory journal

journal, of which Marat was the conductor, that deputy was denounced on the 26th of Second-month; but, being in favour with the Jacobin club, which had great influence, he was not purſued with rigour, and ſtill continued his attendance in the hall of the legiſlature. On the 1ſt of Fourth-month he recriminated on the Girondine, and denounced 300 of the deputies. On the 12th he renewed his accuſation, and was ſupported by Robeſpierre. A violent tumult enſued, and the deputies on both ſides of the hall advanced with drawn ſwords; by the authority of the preſident, it was, however, at length compoſed; and in the evening ſitting, a decree of accuſation was paſſed againſt Marat himſelf, 233 being for it, 82 againſt it, and 22 excuſing themſelves from voting. He had ſigned an addreſs, as preſident of the Jacobin club, exhorting the popular ſocieties to unite and pour in a ſhower of petitions, "for the expulſion of thoſe unfaithful members who betrayed their truſt, and who did not vote for the death of the tyrant." Marat was committed to the Abbey priſon. On the 15th, a petition was preſented to the Convention by the commons of the 48 ſections of Paris, demanding that Briſſot, with more than 20 others of the Girondine, ſhould be impeached, and expelled the Convention. Marat was unanimouſly acquitted, by the jury before whom he was arraigned, on the 24th, and brought in triumph by the people to reſume his ſeat in the Convention. After various alarms and tumults in the capital, the hall of the aſſembly was ſurrounded by an immenſe crowd of people, with the revolutionary council of Paris at the head of an armed force: they were violent in their demand, that a decree of accuſation ſhould be paſſed againſt a number of the Girondine, and, after much tumult, this was done on the 2d of Sixth-month.

On the 23d the Convention, iſſued the declaration of the rights of man; and, a few days after, they announced the completion of the new conſtitution of France.

Briſſot, and ſome others of the deputies, who had been decreed under arreſt, eſcaped to the country, and endeavoured to ſtir up the people againſt the Mountain; but theſe diſpatched commiſſioners to the departments, moſt of the fugitive deputies were captured, and congratulatory addreſſes were ſent in to the Convention from the different parts of the country.

The ſouthern departments only remained attached to the fallen party. A congreſs of the department was convoked at Lyons, in which the Mountain party was declared to be outlawed, and the people of Marſeilles and Toulon entered with them into that famous confederacy, for diſſolving the Convention, which has ſince been diſtinguiſhed by the name of federaliſm. The department of La Gironde entered warmly into the diſpute, and that of Calvados broke out into open revolt. The horrors and deſolation to which the French were now expoſed, are, perhaps, unparalleled in the hiſtory of any other nation. Immenſe hoſts of foreign enemies, of various languages and governments, ravaged their frontiers, their reſpective nations, in the mean time, faſting and praying, by millions, at home, for the ſucceſs of their arms, by papal, epiſcopal, and preſbyterian preſcription; for ſo diverſe were the eccleſiaſtical eſtabliſhments of the governments combined

combined againſt them. They were aſſailed on every ſide, both by ſea and land, the moſt celebrated powers in Europe, both inland and maritime, being united in the hoſtile league. But the moſt dreadful of all their calamities were their internal animoſities. The government ſeemed to be driven from one act of madneſs and deſperation to another, and their efforts reſembled the convulſive energy of a paroxiſm; and, like a deſperate maniac, it might be ſaid to tear and wound it's own body. One city and department after another were reduced to obedience to the Convention, which ſpread terror and deſolation throughout the land: it then fell upon it's own members, and one party after another was ſent to execution.

To expel the invaders from their territory, they raiſed the people in a maſs. On the 23d of Eighth-month they decreed, among other articles, that "From the preſent time till that, when all the enemies ſhall have been driven from the territory of the republic, all Frenchmen ſhall be in permanent readineſs for the ſervice of the armies. The young men ſhall march to the combat, the married men ſhall forge arms, and tranſport the proviſions; the women ſhall make tents and cloaths, and wait in the hoſpitals; the children ſhall make lint of old linen; the old men ſhall cauſe themſelves to be carried to the public ſquares, to excite the courage of the warriors, to preach hatred againſt the enemies of the republic."

While the horrors of war were raging both within and without this agitated country, the National Convention formed a new calendar. The year, according to this, is divided into 12 months, of 30 days each, with 5 intercalary days, which are dedicated to national feſtivity, and called *Sans-culottides*. Each month is divided into decades, or periods of ten days, the laſt of which is appointed as a day of reſt or relaxation. Their year begins with the Autumn, or on the 22d of our Ninth-month, falſely called September, or Seventh-month. Their Autumn months are Vendemaire, or Vintage-month; Brumaire, or Fog-month; and Frimaire, or Froſt-month. Their Winter-months are Nivoſe, or Snow-month; Pluvoiſe, or Rain-month; and Ventoſe, or Wind-month. Their Spring-months are Germinal, or Bloſſom-month; Floreal, or Flower-month; and Prairial, or Meadow-month. And their Summer-months are Meſſidor, or Harveſt-month; Thermidor, or Heat-month; and Fructidor, or Fruit-month. However ingenious this diviſion of the year may appear, the Republicans, in adopting it, have departed from their profeſſed principle of equality, as it applies only to the European part of the republic, the diſtant parts lying between the tropics, and in the ſouthern hemiſphere, have the ſeaſons different. The days of the decade bear the numeral names of Primdi, Duodi, Tridi, Quartidi, Quintidi, Sextidi, Septidi, Octodi, Nonidi, Decadi; and the name of the day of the decade, conſequently, more nearly tells the day of the month than our almanacks can; for inſtance, the Quintidi, or Fifth-day, is always the fifth, fifteenth, or twenty-fifth day of the decade, or the fifth day of the ſanſculottides.

Our limits do not allow us to enter into a detail of the atrocities committed in France, when the Mountain party came into power.

The

The cruelty they exerciſed in their ſeverities towards thoſe who ſtood in their way, has, perhaps, only been equalled in the conduct of the combined powers, in giving up, or leaving to their furious armies, the unhappy emigrants who had joined their confederacy.

On the 30th of Tenth-month, Briſſot, and twenty other deputies, were executed, on the charge of exciting civil war in the South. They appeared generally to meet their fate with tranquillity or firmneſs, and ſome of theſe enthuſiaſts for liberty exclaimed *Vive la République* to the laſt moment of their lives.

Beſides ſeveral other ſufferers, the celebrated woman Roland was executed before the cloſe of the year. Her attachment to the party of the Gironde, of which number was her huſband, was the only crime alleged againſt her, and in this attachment ſhe gloried both at the tribunal and on the ſcaffold.

On the 5th of Second-month, 1794, SLAVERY WAS ABOLISHED THROUGHOUT THE FRENCH REPUBLIC.

On the 25th of Third-month, Herbert and nineteen others were executed on the charge of a conſpiracy againſt the liberty of the French people. The crouds of ſpectators were immenſe, and they diſgraced humanity, by the moſt cruel and barbarous exultations on the occaſion; but the priſoners diſregarded the indignation expreſſed againſt them, and embraced each other when arrived at the foot of the ſcaffold.

On the 5th of Fourth-month, Danton and fifteen others were executed on the charge of conſpiracy, or corrupt practices. They generally behaved with intrepidity in their laſt moments; and Danton, in particular, who ſuffered the laſt, ſeemed quite above the fear of death.

On the 10th of Fifth-month, the poor orphans of the late royal pair loſt the laſt relation, which remained to them in France, by the execution of their aunt Elizabeth, the ſiſter of their father. She aſcended the ſcaffold, with twenty-five others, condemned at the ſame time, and, though ſhe bled the laſt, ſhe is ſaid to have diſplayed a courage or fortitude ſuperior to them all. All theſe are but a few, in compariſon of the numbers who ſuffered. The manner of execution by the guillotine, ſo inſtantaneous, was yet accounted too ſlow; it diſpatched but one at a time: the victims, therefore, to revolutionary meaſures, as they were called, were gathered together in bodies, and mowed down, or torn to pieces by the diſcharge of artillery through them, and caſt into the rivers and drowned, or ſunk in companies on board of veſſels. Thouſands were deſtroyed by theſe ſanguinary proceedings, as well as in the oppoſition of force to force, on the frontiers and in the interior; and thouſands of others ſought aſylum in foreign lands. Terror and deſolation iſſued from the revolutionary tribunals with more certain ſtep, and vindictive hand, as being organized, and with ſtride as rapid as when they overtook, in earlier times, the victims of an outrageous populace. In the mean time the career of conqueſt on the frontiers was rapid and deciſive; they drove their enemies from the different parts of the republic, and purſued them, from poſt to poſt, till the territories annexed to it included the people of ſeveral different languages.

On

On the 26th of Seventh-month, 1794, Robeſpierre was accuſed, in the Convention, of being a tyrant; and it was decreed, that he, with ſeveral others of his party, ſhould be arreſted. When he, St. Juſt, and Couthon were ſent to the Luxemburg, the adminiſtrator of police would not receive them as priſoners. They were then taken to the Hotel de Ville, where they were received with open arms. The Commandant, who was alſo arreſted, found means to eſcape, and rode about the ſtreets, at the head of ſome horſe, accompanied by his adjutants, deſiring the people to arm, for that Robeſpierre was arreſted, and liberty trod under foot; he was believed by ſome, particularly the cannoneers, and between nine and ten, found himſelf at the head of about 4000 men, on the Place du Carouſel. The Commune rang the tocſin, and the Place de Greve was filled with armed men, and a number of pieces of cannon. Robeſpierre, St. Juſt, and Couthon, with the Commune, formed themſelves into a National Convention, declared the other repreſentatives of the people, traitors to their country, and out-lawed them; ſent circular letters to all the diſtricts, and appointed a Revolutionary Tribunal to condemn all thoſe to death, who ſhould oppoſe them. The alarm-bell was ſounded at the Jacobin club, which alſo declared in favour of Robeſpierre. All Paris was in motion, and a civil war ſeemed to be on the point of breaking out. The National Convention, on their part, outlawed Robeſpierre, and the other members, with the Commandant, and all the members of the Commune. A proclamation was iſſued, and read in all the diſtricts of Paris, repreſenting that the country was in danger. The people declared for the Convention, and one of the members flew to the Hall of the Commune at the head of ſome reſolute men. This confuſed the mutineers. Robeſpierre and Couthon attempted to deſtroy themſelves, but were only wounded; others endeavoured to eſcape, but the place was ſo ſurrounded, that they were all taken, and ſent to the Committee of Public Safety. Another member, in the mean time, arreſted the Preſident of the Jacobin Club, ſhut up their hall, and took the keys to the Convention. At break of day, the tumult was over.

On the following day, between ſix and ſeven in the evening, twenty-two of the mutineers received puniſhment, Robeſpierre, in his attempt to ſhoot himſelf, had ſo mangled his face, that, when the executioner took off the cloth which covered and bound it up, his lacerated jaw dropped, exhibiting a frighful ſpectacle; he could not ſpeak, but both he and his adherents, like the other revolutioniſts, ſeemed to die undaunted.

On the 29th, ſixty-eight municipal officers, concerned in the conſpiracy, were alſo executed. Since that time, the executions have been very few. Barrere, and ſome other members, who acted with Robeſpierre, have been ſentenced to baniſhment: but multitudes of priſoners have been releaſed, amid the acclamations of the people, who received them with embraces and tears of joy. The ſeventy-one impriſoned members of the Convention have alſo been releaſed, and reſumed their ſeats; and the inſurgents in the weſt have laid down their arms, and are reunited to the republic.

In

In the mean time, their ſucceſs in their warfare with their foreign enemies has not diminiſhed. The revolution they have brought about, in the beginning of 1795, in the United Provinces of Holland, is well known. They are entering into peace with other governments; but they ſeem to have commenced a career of conqueſt in the Weſt Indies, which may ultimately reſtore all the negroes inthat part of the world to the enjoyment of the natural rights of mankind.

313. *Declaration of Rights, adopted by the Convention in* 1793.] The French people, convinced that forgetfulneſs of, and contempt for, the natural rights of man, are the only cauſes of the crimes and misfortunes of the world, have reſolved to expoſe, in a declaration, the ſacred and inalienable rights, in order that all citizens, being able always to compare the acts of the government with the end of every ſocial inſtitution, may never ſuffer themſelves to be oppreſſed and degraded by tyranny; and that the people may always have before their eyes the baſis of their liberty and happineſs; the magiſtrates the rule of their duty; and the legiſlators the object of their miſſion.

They acknowledge therefore and proclaim, in the preſence of the Supreme Being, the following declarations of the rights of man and of citizens:

Article. I. The end of ſociety is common happineſs, government is inſtituted to ſecure to man the enjoyment of his natural and impreſcriptible rights.

II. Theſe rights are equality, liberty, ſafety and property.

III. All men are equal by nature, and before the law.

IV. The law is the free and ſolemn expreſſion of the general will. It ought to be the ſame for all, whether it protects or puniſhes. It cannot order but what is juſt and uſeful to ſociety. It cannot forbid but what is hurtful.

V. All citizens are equally admiſſible to public employments. Free people know no other motives of preference in their elections than virtue and talents.

VI. Liberty is that power which belongs to a man of doing every thing that does not hurt the rights of another: its principle is nature: it's rule juſtice: it's protection the law: and it's moral limits are defined by this maxim, "Do not to another, what you would not wiſh done to yourſelf."

VII. The rights of manifeſting one's thoughts and opinions, either by the preſs, or in any other manner: the right of aſſembling peaceably, and the free exerciſe of religious worſhip, cannot be forbidden. The neceſſity of announcing theſe rights ſuppoſes either the preſence or the rent-remembrance of deſpotiſm.

VIII. Whatever is not forbidden by the law cannot be prevented. No one can be forced to do that which it does not order.

IX. Safety conſiſts in the protection granted by the ſociety to each citizen for the preſervation of his perſon, his rights, and his property.

X. The law avenges public and individual liberty for the abuſes committed againſt them by power,

XI. No perſon can be accuſed, arreſted, or confined, but in caſes determined by the law, and according to the forms which it preſcribes.

Every

Every citizen, ſummoned or ſeized by the authority of the law, ought immediately to obey: he renders himſelf culpable by reſiſtance.

XII. Every act exerciſed againſt a man to which the law does not apply, and in which it's forms are not obſerved, is arbitrary and tyrannical. Reſpect for the law forbids him to ſubmit to ſuch acts; and if attempts are made to execute them by violence, he has a right to repel force by force.

XIII. Thoſe who ſhall ſolicit, diſpatch, ſign, execute, or cauſe to be executed, arbitrary acts, are culpable, and ought to be puniſhed.

XIV. Every man being ſuppoſed innocent until he has been declared guilty, if it is judged indiſpenſible to arreſt him, all ſeverity not neceſſary to ſecure his perſon ought to be ſtrictly repreſſed by the law.

XV. No one ought to be tried and puniſhed until he has been legally ſummoned, and in virtue of a law publiſhed previous to the commiſſion of the crime. A law which ſhould puniſh crimes committed before it exiſted would be tyrannical. The re-troactive effect given to a law would be a crime.

XVI. The law ought not to decree any puniſhments but ſuch as are ſtrictly and evidently neceſſary—Puniſhment ought to be proportioned to the crime, and uſeful to ſociety.

XVII. The right of property is that right which belongs to every citizen to enjoy and diſpoſe of, according to his pleaſure, his property, revenues, labour, and induſtry.

XVIII. No kind of labour, culture, or commerce, can be forbidden to the induſtrious citizens.

XIX. Every man may engage his ſervices and his time, but he cannot ſell himſelf—his perſon is not alienable property. The law does not acknowledge ſervitude—there can exiſt only an engagement of care and gratitude between the man who labours, and he who employs him.

XX. No one can be deprived of the ſmalleſt portion of his property, without his conſent, except when the public neceſſity, legally proved, evidently requires it, and on conditions of a juſt and previous indemnification.

XXI. No contribution can be eſtabliſhed but for general utility, and to relieve the public wants. Every citizen has a right to concur in the eſtabliſhment of contributions, to watch over the uſe made of them, and to call for a ſtatement of their expenditure.

XXII. Public aids are a ſacred debt. The ſociety is obliged to provide for the ſubſiſtence of the unfortunate, either by procuring them work, or by ſecuring the means of exiſting to thoſe who are unable to labour.

XXIII. Inſtruction is the want of all, and the ſociety ought to favour with all it's power, the progreſs of public reaſon; and to place inſtruction within the reach of every citizen.

XXIV. The ſocial gaurantee conſiſts in the action of all, to ſecure to each the preſervation of his rights.—This gaurantee reſts on the national ſovereignty.

XXV. The ſocial gaurantee cannot exiſt, if the limits of public functions are not clearly determined by the law, and if the reſponſibility of all public functionaries is not ſecured.

XXVI. No

XXVI. The ſovereignty reſides in the people; it is one and indiviſible, impreſcriptible, and inalienable.

XXVII. No portion of the people can exerciſe the power of the whole: but each ſection of the ſovereign aſſembled ought to enjoy the right of expreſſing it's will in perfect liberty.

XXVIII. Every individual who arrogates to himſelf the ſovereignty, or who uſurps the exerciſe of it, ought to be put to death by free men.

XXIX. A people have always the right of reviſing, amending, and changing their conſtitution. One generation cannot ſubject to it's laws future generations.

XXX. Every citizen has an equal right of concurring in the information of the law, and in the nomination of his mandatories or agents.

XXXI. Public functions cannot be conſidered as diſtinctions, or rewards, but as duties.

XXXII. Crimes committed by the mandatories of the people and their agents, ought never to remain unpuniſhed. No one has a right to pretend to be more inviolable than other citizens.

XXXIII. The right of preſenting petitions to depoſitaries of public authority belongs to every individual. The exerciſe of this right cannot, in any caſe, be forbidden, ſuſpended, or limited.

XXXIV. Reſiſtance to oppreſſion is the conſequence of the other rights of man.

XXXV. Oppreſſion is exerciſed againſt the ſocial body, when even one of it's members is oppreſſed. Oppreſſion is exerciſed againſt each member, when the ſocial body is oppreſſed.

XXXVI. When the government violates the rights of the people, inſurrection becomes to the people, and to every portion of the people, the moſt ſacred, and the moſt indiſpenſible of duties.

THE CONSTITUTIONAL ACT.

Of the Republic.

Article 1. The French republic is one and indiviſible.

Of the Diſtribution of the People

2. The French people is diſtributed, for the exerciſe of it's ſovereignty, into primary aſſemblies of cantons. 3. It is diſtributed, for adminiſtration, and for juſtice, into departments, diſtricts, and municipalities.

Of the ſtate of Citizens.

4. Every man, born or domiciliated in France, of the age of twenty-one years complete; every foreigner, of the age twenty-one years complete, who domiciliated in France, for one year, lives in it by his labour; or acquires a property; or marries a French woman; or adopts a child; or maintains an aged perſon; finally, every foreigner, who ſhall be judged, by the legiſlative body, to have deſerved well of humanity, is admitted to the exerciſe of the rights of a French citizen. 5. The exerciſe of the rights of a citizen is loſt, by naturalization in a foreign country; by the acceptance of functions or favours, flowing from a government not popular; by condemnation to puniſh-

ments,

ments, infamous or afflictive, till recapacitation. 6. The exercise of the rights of a citizen is suspended, by the the state of accusation; by a judgment of contumacy, as long as that judgment is not annulled.

Of the Sovereignty of the People.

7. The sovereign people is the universality of French citizens. 8. It nominates directly it's deputies. 9. It delegates to electors the choice of administrators, of public arbitrators, of criminal judges, and judges of appeal. 10. It deliberates on laws.

Of the Primary Assemblies.

11. The primary assemblies are composed of the citizens, domiciliated for six months in each canton. 12 They are composed of two hundred citizens at the least, six hundred at the most, called to vote. 13. They are constituted by the nomination of a president, secretaries, and scrutineers. 14. Their police appertains to them. 15. No person can appear in them armed. 16. The elections are made by ballot, or open vote, at the option of each voter. 17. A primary assembly cannot, in any case, prescribe an uniform mode of voting. 18. The scrutineers ascertain the votes of citizens, who cannot write, and chuse to vote by ballot. 19. The suffrages upon laws are given by *yes* or by *no*. 20. The will of a primary assembly is proclaimed thus: *The citizens met, in primary assembly of———, to the number of———, voters; vote for, or vote against, by a majority of———*

Of the National Representation.

21. Population is the sole basis of the national representation. 22. There is one deputy for every forty thousand individuals. 23. Each re-union of primary assemblies, resulting from a population of, from thirty-nine to forty-one thousand souls, nominates directly one deputy. 24. The nomination is made by the absolute majority of suffrages. 25. Each assembly casts up the suffrages, and sends a commissioner for the general casting up, to the place pointed out as the most central. 26. If the first casting up does not give an absolute majority, a second vote is proceeded to, and the votes are taken for the two citizens, who had the most voices. 27. In cases of equality of voices, the eldest has the preference, either to be on the ballot, or elected. In case of equality of age, lot decides. 28. Every Frenchman, exercising the rights of citizen, is eligible through the extent of the republic. 29. Each deputy belongs to the whole nation. 30. In case of the non-acceptance, resignation, forfeiture, or death of a deputy, he is replaced by the primary assemblies, who nominated him. 31. A deputy, who has given in his resignation, cannot quit his post but after the admission of his successor. 32. The French people assemble every year on the first of May for elections. 33. It proceeds in them, whatever be the number of citizens present, having a right to vote, 34. Primary assemblies are formed on extraordinary occasions, on a demand of a fifth of the citizens, who have a right to vote in them. 35. The convocation is made, in this case, by the municipality of the ordinary place of meeting. 36. These extraordinary assemblies do not deliberate but when one more than the half of the citizens, who have a right to vote in them, are present.

Of the Electoral Aſſemblies.

37. The citizens met, in primary aſſemblies, nominate one elector for every two hundred citizens, preſent or not; two for from two hundred and one to four hundred; and three for from four hundred and one to five hundred. 38. The holding of the electoral aſſemblies, and the mode of elections, are the ſame as in primary aſemblies.

Of the Legiſlative Body.

39. The legiſlative body is one, indiviſible and permanent. 40. It's ſeſſion is for a year. 41. It meets on the firſt of July. 42. The national aſſembly cannot be conſtituted, if it do not conſiſt of one or more than half of the deputies. 43. The deputies cannot be examined, accuſed, or tried at any time, for the opinions they have delivered in the legiſlative body. 44. They may, for a criminal act, be ſeized, *en flagrant delit*; but a warrant of arreſt, or a warrant ſummoning to appear, cannot be granted againſt them, unleſs authorized by the legiſlative body.

Holdings of the Sittings of the Legiſlative Body.

45. The ſittings of the national aſſembly are public. 46. The minutes of it's ſittings are printed. 47. It cannot deliberate, if it be not compoſed of two hundred members at the leaſt. 48. It cannot refuſe to hear it's members ſpeak in the order in which they have demanded to be heard. 49. It deliberates by a majority of the members preſent. 50. Fifty members have a right to require the appeal nominal. 51. It has the right of cenſure on the conduct of it's members within itſelf. 52. The police appertains to it in the place of it's ſittings, and in the external circuit which it has determined.

Of the Functions of the Legiſlative Body.

53. The legiſlative body propoſes laws and paſſes decrees. 54. Under the general name of laws are comprehended the acts of the legiſlative body, concerning the legiſlation, civil and criminal; the general adminiſtration of the revenues, and of the ordinary expences of the republic; the national domains; the title, the weight, the impreſſion, and the denomination of money. The nature, the amount, and the collection of contributions; the declaration of war; every new general diſtribution of the French territory; the public inſtruction; the public honours to the memory of great men. 55. Under the particular name of decrees, are included the acts of the legiſlative body, concerning the annual eſtabliſhment of the land and ſea forces; the permiſſion or the prohibition of the paſſage of foreign troops through the French territory; the introduction of foreign naval forces into the ports of the republic; the meaſures of general ſafety and tranquillity; the annual and occaſional diſtribution of public ſuccours and works. The orders for the fabrication of money of every kind; the unforeſeen and extraordinary expences; the meaſures, local and particular, to an adminiſtration, a commune, or any kind of public works; the defence of the territory; the ratification of treaties; the nomination and the removal of commanders in chief of armies; the proſecution of the reſponſibility of members of the council, and the public functionaries; the accuſation of perſons charged with plots againſt the general ſafety

of

of the republic; all change in the partial diſtribution of the French territory; national recompences.

Of the Formation of the Law.

56. The plans of law are preceded by a report. 57. The diſcuſſion cannot be opened, and the law cannot be proviſionally reſolved upon till fifteen days after the report. 58. The plan is printed, and ſent to all the communes of the republic under this title:—*Law propoſed.* 59. Forty days after the ſending of the law propoſed, if, in one more than half of the departments, the tenth of the primary aſſemblies of each, regularly formed, have not objected to it, the plan is accepted, and becomes law. 60. If there be an objection, the legiſlative body convokes the primary aſſemblies.

Of the entitling of Laws and Decrees.

61. Laws, decrees, judgments, and all public acts are entitled—*In the name of the French people,* the ——year of the French republic.

Of the Executive Council.

62. There is one executive council, compoſed of twenty-four members. 63. The electorial aſſembly of each department nominates one candidate. The legiſlative body chuſes the members of the council from the general liſt. 64. One half of it is renewed by each legiſlature in the laſt month of the ſeſſion. 65. The council is charged with the direction and ſuperintendance of the general adminiſtration. It cannot act but in execution of the laws and decrees of the legiſlative body. 66. It nominates, not of it's own body, the agents in chief of the general adminiſtration of the republic.

67. The legiſlative body determines the number, and the functions of theſe agents. 68. Theſe agents do not form a council. They are ſeparated without any immediate correſpondence between them; they exerciſe no perſonal authority. 69. The council nominates, not of it's own body, the external agents of the republic. 70. It negotiates treaties. 71. The members of the council, in caſe of malverſation, are accuſed by the legiſlative body. 72. The council is reſponſible for the non-execution of laws and decrees, and for abuſes which it does not denounce. 73. It recals and replaces the agents in it's nomination. 74. It is bound to denounce them, if there be occaſion before the judicial authorities.

Of the Connection of the Executive Council with the Legiſlative Body.

75. The executive council reſides near the legiſlative body. It has admittance and a ſeparate ſeat in the place of ſittings. 76. It is heard as often as it has an account to give. 77. The legiſlative body calls it into the place of it's ſittings, in whole or in part, when it thinks fit.

Of the Adminiſtrative and Municipal Bodies.

78. There is a municipal adminiſtration in each commune of the republic; in each diſtrict an intermediate adminiſtration; in each department a central adminiſtration. 79. The municipal officers are elected by the aſſemblies of the commune. 80. The adminiſtrators are nominated by the electoral aſſemblies of department and diſtrict. 81. The municipalities and the adminiſtrations are renewed, one half, every year. 82. The adminiſtrators and municipal officers have no

character of repreſentation; they cannot, in any caſe, modify the acts of the legiſlative body, or ſuſpend the execution of them. 83. The legiſlative body determines the functions of the municipal officers and adminiſtrators, the rules of their ſubordination, and the penalties they may incur. 84. The ſittings of municipalities and adminiſtrations are public.

Of Civil Juſtice.

85. The code of civil and criminal laws is uniform for all the republic. 86. No infringement can be made on the rights which citizens have to cauſe their differences to be pronounced upon by arbitrators of their choice. 87. The deciſion of theſe arbitrators is final, if the citizens have not reſerved the right of objecting to them. 88. There are juſtices of the peace elected by the citizens, in circuits determined by the law. 89. They conciliate and judge without expence. 90. Their number and their competence are regulated by the legiſlative body. 91. There are public arbitrators elected by the electoral aſſemblies. 92. Their number and their circuits are fixed by the legiſlative body. 93. They take cognizance of diſputes which have not been finally determined by the private arbitrators or the juſtices of peace. 94. They deliberate in public; they give their opinions aloud; they pronounce, in the laſt reſort, on verbal defences, or ſimple memorials, without procedures, and without expence; they aſſign their reaſons of their deciſions. 95. The juſtices of the peace and the public arbitrators are elected every year.

Of Criminal Juſtice.

96. In criminal caſes, no citizen can be tried, but on an accuſation received by a jury, or decreed by the legiſlative body; the accuſed have counſel, choſen by themſelves, or nominated officially; the proceſs is public. The fact and the intention are declared by a jury of judgment; the puniſhment is applied by a criminal tribunal. 97. The criminal judges are elected every year by the electoral aſſemblies.

Of the Tribunal of Appeal.

98. There is one tribunal of appeal for all the republic. 99. This tribunal does not take cognizance of the merits of the caſe; it pronounces on the violation of forms, and on expreſs contravention of the law. 100. The members of this tribunal are nominated every year by the electoral aſſemblies.

Of Public Contributions.

101. No citizen is exempt from the honourable obligation of contributing to the public charges.

Of the National Treaſury.

102. The national treaſury is the central point of the receipts and expences of the republic. 103. It is adminiſtered by accountable agents, nominated by the executive council. 104. Theſe agents are ſuperintended by commiſſioners, nominated by the legiſlative body, not of it's own members, and reſponſible for abuſes which they do not denounce.

Of Accountability.

105. The accounts of the agents of the national treaſury, and the adminiſtrators of the public money, are given in annually to reſponſi-

ble verificators. 106. These verificators are superintended by the commissioners, in the nomination of the legislative body, not of it's own members, and responsible for errors and abuses which they do not denounce; the legislative body passes the accounts.

Of the Forces of the Republic.

107. The general force of the republic is compofed of the whole people. 108. The republic maintains in it's pay, even in the time of peace, an armed force by sea and land. 109. All the French are soldiers; they are all exercised in the use of arms. 110. There is no generalissimo. 111. Difference of ranks, their distinctive marks and subordination, subsist only with relation to service, and during it's continuance. 112. The public force, employed for maintaining order and peace in the interior, does not act but on the requisition in writing, of the constituted authorities. 113. The public force, employed against the enemies from without, acts under the orders of the executive council. 114. No armed body can deliberate.

Of National Conventions.

115. If in one more than half of the departments, the tenth of the primary assemblies of each, regularly formed, demand the revision of the constitutional act, or the change of some of it's articles, the legislative body is bound to convoke all the primary assemblies of the republic, to know if there be ground for a national convention. 116. The national convention is formed in the same manner as the legislatures, and unites in itself their powers. 117. It employs itself, with respect to the constitution, only on the objects which were the cause of it's convocation.

Of the Correspondence of the French Republic with Foreign Nations.

118. The French people is the friend and natural ally of every free people. 119. It does not interfere in the government of other nations. It does not suffer other nations to interfere in it's own. 120. It gives an asylum to foreigners, banished from their country for the cause of liberty; it refuses it to tyrants. 121. It does not make peace with an enemy that occupies it's territory.

Of the Guarantee of Rights.

122. The constitution guarantees to all the French, equality, liberty, safety, property, the public debt, the free exercise of worship, a common instruction, public succours, the indefinite liberty of the press, the right of petition, the right of meeting in popular societies, the enjoyment of all the rights of man. 123. The French republic honours loyalty, courage, age, filial piety, misfortune. It puts the deposite of it's constitution under the guard of all the virtues. 124. The declaration of rights, and the constitutional act, are engraven on tables, in the bosom of the legislative body, and in the public places.

(Signed) COLLOT D'HERBOIS, President.

DURAND MALLAINE,
DUCOS,
MEAULLE,
CH. DELACROIX,
GOSSUIN,
P. A. LALOY. } Secretaries.

Without entering into a *critique* on the particular articles of the French Conſtitution, we may juſt make a few obſervations on the qualifications for legiſlation. This is the moſt important part of civil juriſprudence, inaſmuch as it forms the baſis of it. While the other governments of Europe generally exhibit the maſs of the people in chains, and the rulers exerciſing all the addreſs of the keepers of ſtrong and dangerous animals, goading them till they begin to ſhew their teeth, and then only deſiſting till they have ceaſed to growl, and returned to their former apathetic or ſubmiſſive ſtate; the French have profeſſedly riſen ſuperior to theſe debaſing and inſulting eſtabliſhments. But it is in vain that they pretend that their conſtitution guarantees equality, while far more than half of the people are entirely under the dominion of the reſt, having no ſhare in the legiſlation, not having a voice in any of their aſſemblies, nor being conſulted on any public meaſures whatever. Is it neceſſary to obſerve, that theſe are the women and thoſe who are under age? Moreover, the ſtranger who comes to ſettle in their land, though treated with greater reſpect and juſtice than in other countries, is not at once on a level with the French, though immediately amenable to their law. Their ſyſtem of equality muſt be imperfect, till theſe diſtinctions be done away. The fair and lovely theory will never be complete till all who are moral ſubjects, all who are amenable to the law, have a vote in the legiſlature, or form a part of the ſocial compact. Perhaps it would well agree with the natural rights of mankind, and prevent all trouble of enquiry into qualification, that every living human being were repreſented. During the ſtate of infancy or childhood, while the mind was yet but dawning, or when, by derangement of the faculties, or dotage, the judgment was obtuſed and diſcretion loſt or ſuſpended, the guardian parents, or guardian offſpring, or whatever other guardian were honoured with the care of the *imbecile* could aſſert his right in voting for him. How charming would be the ſight of whole families, coming to the common halls to give their votes, according to the number of heads; and, that equality might never be loſt ſight of, if the number of thoſe, who had not a will, were odd, and the parents gave different votes, it might be decided by lot whether of the two ſhould have the majority. The bachelor, who would diſlike to ſee this preference given to parents, is perhaps not worthy of the privilege of legiſlating for children.

SECTION XXXVII.

Spain.

Spain lies between thirty-ſix and forty-four deg. north latitude, and between ten deg. weſt and three deg. eaſt longitude. It is bounded on the north by the Bay of Biſcay and the Pyrenean mountains; on the ſouth

Plate XXII

Engraved for Walkers Geography &c.

south by the Streights of Gibraltar; on the east by the Mediterranean Sea, and on the west by Portugal and the Atlantic Ocean.

314. *Divisions.*] It is divided into the following kingdoms, principalities or provinces.

Provinces.	*Chief Towns.*
GALICIA.	Compostella, Mondonedo, Lugo, Ortense, Tuy, Corunna, Ferrol, Vigo, Betanzes, Rivadavia,
ASTURIA.	Oviedo, Santillana, Avilles, St. Vincent.
BISCAY.	Bilboa, Tholosa, Vittoria, Port Passage, St. Sebastian, Fontarabia, St. Andrew, Lacedo, Ordunna, Placentia.
NAVARRE.	Pampeluna, Olita, Tudela, Estella, Sanguesa.
ARRAGON.	Saragossa, Jaca, Huesca, Balbastro, Taracona, Albarasin, Teruel, Ainsa, Catalajud, Boria.
CATALONIA.	Barcelona, Urgel, Balaguer, Lerida, Tortosa, Girona, Tarragona, Roses, Vich, Cardonna, Solsonna, Puycerda, Manresa.
VALENCIA.	Valencia, Villa Hermosa, Origuela, Segorbe. Xativa, Alicant, Denia, Gandia, Morviedro, Villareal, Alzira, Altea.
MURCIA.	Murcia, Lorca, Carthagena, Caravaca, Mula.
GRANADA.	Granada, Malaga, Almeria, Guadix, Ronda, Antiquera, Braga, Loya.
ANDALUSIA.	Seville, Jæn, Corduba, Medina Sidonia, Cadiz, Gibraltar, Port St. Mary, Ezeja, Bæza, Ossuna, St. Lucar, Anduxar, Carmona, Alcalareal, Lucena, Arcos, Marchena, Ayamont, Ubeda, Moguer.
OLD CASTILE.	Burgos, Logronno, Calahorra, Soria, Osma, Valladolid, Segovia, Avila, Siguensa, Roa, Aranda, Calzada, Negera, St. Domingo,
NEW CASTILE.	Madrid, Toledo, Cuenca, Cividad Real, Alcala de Henarez, Almanza, Escurial, Gaudalaxara, Brihuega, Calatrava, Villena, Requena.
LEON.	Leon, Placencia, Toro, Zamora, Astorga, Salamanca, Alva, Cividad Rodrigo.
ESTREMADURA.	Merida, Badajoz, Placentia, Coria, Truxillo, Ellerena, Alcantara, Medelin.

The Spanish islands in the Mediterranean are Majorca, Minorca, and Ivica.

315. *Climate, Soil, Produce.*] The air of Spain is dry, and the sky serene and clear, except during the equinoctial rains; but in the southern provinces, during the summer months, the heat is excessive.

The soil is extremely fertile, but the natives indolent to excess, suffer it to become sterile for want of cultivation, and scarcely raise corn sufficient for the necessary calls of life. In many places the richest and most delicious fruits grow almost spontaneously, particularly oranges, lemons, prunes, citrons, almonds, grapes, and figs. The Spanish Wines are in high estimation among foreigners; and even sugar

canes arrive at the utmoſt perfection; ſaffron, honey, and ſilk, are produced in great abundance in almoſt every province. Some of the mountains are cloathed with wood, fruits, and herbage, to their very ſummits. A variety of aromatic herbs grow every where, imparting a fine flavour to the fleſh of the ſheep and kid which feed on them. Seville is eſpecially celebrated for it's oranges, and Murcia produces mulberry trees in ſuch abundance, that the product of it's ſilks amounts to 200,000l. a year. This country, however, is much infeſted with locuſts which ſometimes darken the meridian ſun, conſume the verdure of the fields, and deſtroy the hope of the year; and from this dreadful calamity, whole provinces have felt all the horrors of famine; and the inhabitants are extremely inattentive to the deſtruction of the eggs of theſe formidable inſects, which might timely prevent theſe fatal conſequences.

316. *Animals.*] Wolves are almoſt the only beaſts of prey in this kingdom, the breed of which, on account of the number of mountains, have never been totally exterminated. Black cattle, [illegible] and other tame animals, common to the European climates, are plentiful in Spain. The Spaniſh ſheep are a treaſure in themſelves, their wool being the fineſt in the univerſe; the number of their ſhepherds is computed to be forty thouſand. The Andaluſian horſes are the moſt celebrated for beauty of any in Europe. Wild bulls abound in the foreſts of New Caſtile, and give the youth an opportunity of diſplaying their courage and activity before their miſtreſſes, as in tilts and tournaments in the romantic days of chivalry. The fights of the cavaliers, or bull feaſts, a diverſion attended with circumſtances of uncommon barbarity, and ſuited only to the taſte of the Gothic ages, is of mooriſh original; it is now happily become obſolete, but was once ſo prevalent, that every town of any note is furniſhed with a large ſquare or circus for the purpoſe of exhibiting bull fights; and ſo fond are they in ſome places of this diverſion, that in the ſmalleſt villages they will procure a cow or ox by ſubſcription, and fight them, riding on aſſes, if they cannot procure horſes. It would be well if other countries were clear of the inhuman practice of torturing this very uſeful part of the creation. With equal cruelty, though with leſs hardineſs and courage, the poor bull is baited and torn in our iſlands. Fowls, wild and tame, and the various ſpecies of thoſe animals called game, are excellent and numerous in Spain, and the Spaniſh ſeas and rivers are plentifully ſtocked with fiſh.

317. *Foſſils and Springs.*] Spain abounds in metals and minerals, but it's ancient celebrity for gold and ſilver mines is now no more; whether their veins were exhauſted, or the natives too indolent to work them, is altogether uncertain. Moſt of their mountains have mines of quickſilver, copper, lead, and iron, which laſt is eſteemed next to that of Damaſcus. Great quantities of marble, jaſper, alabaſter, jet, agate, cornelian, garnets; and ſometimes diamonds, emeralds, and amethyſts are found here. They have likewiſe a great plenty of calamine, ſulphur, alum, and other minerals.

The medicinal waters of Spain are little known, they are frequent in Granada, Seville, and Cordova, but not much reſorted to.

318. *Mountains.*]

318. *Mountains.*] The mountains of Spain are numerous; the moſt remarkable are the Pyrenean, on the frontiers of France; they are near two hundred miles long, and have only five narrow paſſages over them; the Cantabrian mountains appear to be a continuation of the Pyrenees, and reach the Atlantic Ocean ſouth of Cape Finiſterre. Mount Calpe, now called the Hill of Gibraltar, and anciently one of the pillars of Hercules, is ſufficiently known. But of all others Montſerrat is moſt extraordinary; at a diſtance the mountain appears like an infinite number of rocks cut into a conical form, and piled upon one another to a prodigious height; on a nearer view, each cone compoſes a mountain of itſelf, and the whole occupies an extent of about fourteen miles in circumference. As it is in form diſſimilar to any other mountain, ſo it is unconnected with any. It ſtands on a vaſt plain about thirty miles from Barcelona, and has been thought to be ſo admirably adapted for contemplation and retirement, that for many ages it has been the habitation of monks and hermits, who vow never to forſake it. On this mountain ſtands a convent to which pilgrims reſort from the moſt diſtant Romiſh countries. The poor who call there are fed three days gratis, and the ſick relieved from the hoſpital. On particular feſtivals, ſeveral thouſand perſons arrive in a day, who, pay according to their circumſtances for what accommodations the convent can afford. A number of hermitages are cut out on different parts of the mountain, all of which have their little chapels, and are generally furniſhed with ſmall gardens. The hermits have an annual meeting, when they receive their ſacrament from the hands of the mountain vicar, and afterwards dine together; but at other times they live in a very recluſe and ſolitary manner, perform various penances, and adhere to the moſt rigid rules of abſtinence. They are prohibited from keeping any living creature within their walls, that their attention may not be diverted from divine contemplation by the exerciſe of any earthly affection.

319. *Rivers, Lakes.*] The principal rivers in Spain are the Duero, the Tajo, or Tagus, of the ancients, famed for it's golden ſands in their days; the Guadiana, which in it's courſe runs a conſiderable way under ground and again emerges; the Guadalquiver or Turio, and the Ebro. The Tinto, however, is the moſt remarkable, it's waters are of a topaz hue, and, as they glide along, indurate the ſand and petrify in a ſurpriſing manner. Not a plant grows on it's banks, no kind of verdure is ſeen within it's reach, nor have any fiſh ever been found in it's ſtream. Every ſpecies of animals, except goats, refuſe to drink of it, though it's water does not appear to contain any noxious quality, and is much celebrated for deſtroying worms in cattle. Theſe ſingular properties, however, are entirely loſt before it reaches the ſea, by the influx of various rivulets, a conſiderable diſtance from it's mouth.

The lakes in Spain, particularly that of Benevento, abound with various excellent ſpecies of fiſh; and the water of a lake near Antequera, on being evaporated by the heat of the ſun, leaves a cruſt of ſalt.

320. *Commerce, Manufactures.*] Such immenſe treaſure is derived from Spaniſh America, that this nation makes gold and ſilver the chief

chief branches of it's imports and exports. Cochineal, alſo indigo, cocoa, ſugar, tobacco, logwood, and every other valuable article which that quarter of the globe produces, from the cargoes of the homeward-bound galleons or flotas. The chief manufactures of Spain are ſilk, wool, iron, copper, and other hardwares; but ſuch is the general indolence and inactivity of the natives, that they are totally unable to ſupply their colonies with the commodities of their own manufactures; the Engliſh, French, Dutch, and ſeveral other nations carry on this lucrative but contraband trade in Spaniſh bottoms, and ſheltered under the name of Spaniſh factors; Cadiz is the chief emporium for this ſpecies of commerce; to this place the bullion of America is imported, and from hence exported to the other nations of Europe.

321. *Curioſities, natural and artificial.*] The principal natural curioſities of Spain have been told in the deſcription of it's mountains and waters. At Algeira is a very deep and extenſive cavern, with curious cryſtalizations or petrifactions; but the echo in this cave is the moſt amazing, travellers of veracity have affirmed that the report of a piſtol will be reverberated in it for the ſpace of ſeven minutes.

In ſeveral parts of Spain are the remains of Roman and Mooriſh antiquities. Near the city of Salamanca are the ruins of a Roman way; near Segovia is a grand aqueduct, erected by Trajan, which extends over a deep valley between two hills, and is ſupported by a double row of a hundred and ſeventy-two arches; at Toledo are the remains of an old Roman theatre; and at Cordova is an edifice which was formerly a moſque, but is now converted into a Spaniſh congregation houſe, and is ſaid to be one of the wonders of the world, it is ſix hundred feet in length, five hundred in breadth, and of a proportionate height; the roof, which is amazingly bold and lofty, is ſupported by three hundred and fifty pillars of fine marble in ten rows, forming eleven aiſles, in which are three hundred and ſixty-ſix altars, and twenty-four gates, every part being enriched and adorned with the moſt grand and coſtly ornaments: at Granada is to be ſeen great part of a moſt magnificent palace belonging to the mooriſh kings, the inſide is overlaid with jaſper and porphyry, and the walls contain many Arabic inſcriptions; the whole edifice is executed in the Gothic taſte.

322. *Religion, Language.*] The profeſſion of the church of Rome is the national eſtabliſhment of Spain. The horrors of the inquiſition blacken the annals of this country; but by a late edict it's ſeverities have been conſiderably moderated.

The Spaniſh language, except in the terminations and ſome exotic words introduced into it by the Moors and Goths, bears a ſtrong affinity to the Latin, and is one of the moſt lofty and expreſſive tongues in Europe.

323. *Schools, Literati, Artiſts.*] Beſides ſeveral academies, there are twenty four univerſities in Spain, the chief of which is Salamanca, founded by Alphonſus king of Leon, in the year 1200, containing twenty-one colleges, ſome of them magnificiently beautiful, where the ſons of their principal nobility are ſent for their education. The other univerſities, which contain nothing very remarkable, are as follow:

Seville, Granada, Compoſtella, Toledo, Valladolid, Alcala, Siguenza, Valencia, Lerida, Hueſca, Saragoſſa, Tortoſſa, Oſſuna, Onata, Candia, Barcelona, Murcia, Taragona, Baeza, Avila, Oriuela, Palencia, and Oviedo.

The Spaniards, at a very early period, cultivated learning; and after the Saracens had ſettled in this kingdom, they introduced into it their language, religion and literature, and the eaſtern ſtyle of compoſition was generally adopted. At that time the attachment to oriental literature was ſo great, that it entirely ſuperſeded the Roman; and many natives of Spain could write Arabic with the utmoſt purity, though there was ſcarcely a man who underſtood Latin. The Spaniſh Jews, about that period, were diſtinguiſhed by their literary abilities; and, under the ſanction of government, they eſtabliſhed ſchools at Seville, Granada, and Toledo, where they taught the Hebrew Tongue, and other branches of learning, with ſingular ſucceſs and approbation.

Among the literati of Spain we may reckon the Trobadores, whom the Spaniſh writers place as high as the twelfth and thirteenth century, when the Provençal and Galician dialects were generally prevalent. The fourteenth and fifteenth centuries produced ſeveral learned men and celebrated poets; particularly the Marquis of Villena, Juan de Mena, Juan de la Encina, Boſcan, Ercilla, and Villegas; Iſidore, Ximenes, Calderoni, Lopez de Vega, Cervantes, Toſtatus, Herrera, De Solis and Feyjoo, are alſo celebrated for erudition or parts.

The palaces of Spain, particularly the Eſcurial, and other public buildings, ſhew the Spaniards to have been eminent as architects and ſculptors; their pictures alſo ſhew the excellence of their painters. Among the moſt eminent of their artiſts are Velaſquez, Murillo, Rebeira and Claudio Coello, and the names of many others are abſolutely unknown.

324. *Hiſtory, Government.*] Spain, the ancient Iberia or Heſperia, was at an early period in the hands of the Carthiginians, and continued ſo till the Romans diſpoſſeſſed them of all that they held in this country. It continued a Roman province till the deſtruction of that empire, when it was ſeized by the Goths, Vandals, Alans, and Suevi; and from hence the Vandals paſſed over into Africa. In 711, the Saracens from Africa invaded Spain and over-run the whole country. In 718, Pelayo began to recover part of Spain from the Saracens or Moors; others of the Spaniards followed his example, every general ſetting himſelf up for a ſovereign, till after many wars and mutual conqueſts, the ſeparate intereſts were united by the marriage of Iſabella, Queen of Caſtile, to Ferdinand King of Arragon, in 1479; and finally the Moors and Jews, amounting to 170,000 families, were expelled the kingdom. The conſtitution of Spain is the moſt deſpotic monarchy.

SECTION

SECTION XXXVIII.

Portugal.

Portugal is bounded on the north and the eaſt by the kingdom of Spain; on the ſouth and weſt by the Atlantic Ocean. It extends from thirty-ſix deg. fifty min. to forty-three deg. N. lat. and from ſeven to ten deg. W. long.

325. *Diviſions.*] This kingdom is uſually divided into three parts, viz. the northern, middle, and ſouthern provinces.

	Provinces.	*Chief Towns.*
The North diviſion contains	Entre Minho.	Braga.
	Douro.	Oporto, Viana.
	Tra los Montes.	Braganza. Miranda, Villa Real.
The Middle diviſion contains	Beira.	Coimbra. Guarda.
	Eſtremadura.	Liſbon. St. Ubes, Leira.
The South diviſion contains	Entre Tajo. Alentejo, or Guadiana.	Ebora, or Evora. Portalegre, Elvas, Bira.
	Algarva.	Faro, Tavora Silves, Lagos.

326. *Climate, Soil, and Produce.*] The climate of Portugal is in general much more temperate than that of Spain, becauſe of it's vicinity to the ſea; and the air of Liſbon in particular is eſteemed ſo gentle and ſalubrious, that conſumptive patients, from the moſt diſtant European countries, frequently try it as their laſt reſource. But though the temperature of the climate be ſuperior to that of Spain, the ſoil is by no means ſo fertile, which obliges the Portugueſe to import the greateſt part of their corn. The fruits are ſimilar to thoſe of Spain, but their flavour is not quite ſo delicious.

327. *Animals.*] The coaſts of Portugal produce abundance of excellent fiſh; and the land is equally well ſtocked with quadrupeds and fowls, both wild and domeſtic. The mules in this country are extremely ſerviceable both for draught and carriage; and the horſes, though ſlightly made, are ſpirited and lively.

328. *Mountains, Mines, and Springs.*] The mountains of Portugal are generally very rocky; the principal are thoſe which divide Algarva

garva from Montejo; thoſe in Tra los Montes, and the rock of Liſbon at the mouth of the Tajo: beſides theſe, there are ſeveral leſs conſiderable ones; and they abound in all kinds of ores, particularly of ſilver, copper, tin, and iron; but the Portugueſe, being amply ſupplied with metals, and particularly gold from their poſſeſſions in America, and other parts of the globe, no mines are worked in their country. Gems of various kinds, ſuch as turquoiſes and hyacinths, a beautiful ſpecies of veined marble, mill-ſtones, and many curious foſſils of the lapidary kind are found in different provinces; and on the hill of Alcantara, in the vicinity of Liſbon, there is a remarkable mine of ſaltpetre.

Mineral and medicinal ſprings, both hot and cold, are found in Portugal; one in particular, of the firſt ſort, about forty-five miles from Liſbon, has an hoſpital built near it for the benefit of the poor.

329. *Rivers, Lakes.*] Next to the Duero, Minho, Tajo, and Guadiana, which have been already mentioned in Spain, are the Mondego, the Limia, (which is the famed Lethe of the ancients) the Sadao, the Vanda, the Leſa, the Ave, and the Cavado. There is a number of others of leſs note; and ſome authors aſſert, that the ſeveral rivers in the little kingdom of Portugal do not amount to leſs than five thouſand.

On the top of Sierra de Eſtrella, are two lakes of vaſt extent, and one of them is of an amazing depth, having never yet been fathomed. Near Rova, is one that makes a rumbling noiſe which may be heard a conſiderable way off; and in the neighbourhood of the river Mondego is a lake, or rather pool, which is ſaid to abſorb every thing that is thrown into it, though of ever ſo light a nature.

330. *Commerce, Manufactures.*] The Portugueſe exchange their wines, fruit, ſalt, and other articles for foreign manufactures, eſpecially thoſe of the Engliſh. They fabricate ſome linen, woollen, and coarſe ſilks, and are celebrated for candying and preſerving fruit.

Their colonies in Braſil yield vaſt quantities of gold, ſilver, diamonds, ſugar, brazil, and other woods for dying, tobacco, gums, and drugs. Their ſettlements on the eaſt and weſt coaſts of Africa are very extenſive, from whence they alſo import gold, and they carry on a conſiderable trade with the Eaſt Indies.

331. *Curioſities.*] The remains of ſome Mooriſh caſtles, the Roman bridge and aqueduct at Coimbra, the walls of Santarin, which are likewiſe ſuppoſed to be the works of the Romans. Theſe, and the waters, already mentioned, form the principal curioſities of this kingdom.

332. *Profeſſion, Language.*] The Portugueſe are of the church of Rome. John III. introduced the inquiſition into this country, and impious and inhuman as this tribunal is, it has been called the Holy Office, and it's feſtivals, or cruel burnings, *Auto de Fe*, or the Act of Faith. The power of the inquiſition, however, is now taken out of the hands of the eccleſiaſtics, but it is converted into a ſtate trap for the benefit of the crown.

The Portugueſe language differs from that of Spain, only provincially,

cially, with the addition of ſome words originally borrowed from other nations; and is eſteemed ſtrong, energetic and expreſſive.

335. *Learning.*] Uſeful learning and liberal ſcience are baniſhed from Portugal by the decretals of their church; and though there are univerſities at Coimbra and Evora, and ſeveral academies of royal inſtitution, all attempts to diffuſe uſeful knowledge are defeated by the tyrannic ſway of ſuperſtition, which brands with the name of hereſy, even the improvements in natural knowledge, as the doctrines of Newton, Galileo, and other celebrated philoſophers; yet the anceſtors of the preſent Portugueſe were certainly poſſeſſed of more knowledge, with reſpect to aſtronomy, geography, and navigation, than all the world beſides about the middle of the ſixteenth century; but we hardly meet with one name tranſmitted to poſterity, as eminent for literary abilities, except the poetic Camoens, author of the Luſiad, who was himſelf a great adventurer and voyager.

334. *Hiſtory, Government.*] The ancient inhabitants of this country were called Luſitani, and underwent from the Romans, Gothic nations, and Moors, the revolutions of Spain. About 1146, Portugal became a diſtinct kingdom under Alonzo. Upon the death of Henry, King of Portugal, in 1580, Philip II. of Spain ſeized upon this country; but in 1640, the Duke of Braganza recovered it from the Spaniards, and was crowned King, by the name of John IV. Portugal has been independent of Spain ever ſince. It's conſtitution is abſolute monarchy.

SECTION XXXIX.

Italy.

Italy, including Sicily, lies between thirty-ſeven and forty-ſeven deg. N. latitude, and between ſeven and nineteen deg. E. longitude. Towards the eaſt, ſouth, and weſt, it is waſhed by the Adriatic and Mediterranean ſeas; and on the North, it is ſeparated from the reſt of Europe by the Alps.

335. *Diviſions.*] The Italian ſtates, diſſimilar to thoſe of Holland and Switzerland, have diſtinct forms of government, trade, and intereſts; they are not cemented by any political confederacy, to which every member is accountable.

Countries.	*Chief Towns.*
	The King of Sardinia holds
PIEDMONT.	Turin, Pignerol, Carignan, Verceil, Maſſeran, Ivrea, Aſti, Suſa, Saluzzo, Coni, Pragelas or Cluſon, Tende.
MONTFERRAT.	

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MONTFERRAT.	Caſal, Alby, Aqui.
Part of MILAN.	Tortona, Alexandria, Laumello.
SARDINIA I.	Cagliari, Oriſtagni, Saſſari, Caſtel Aragoneſe.

The Dominions of the King of Naples are

NAPLES.	Naples, Capua, Gæto, Benevento, Salerna, Bojano, Cerenza, Coſenza, Rhegio, Aquilla, Chieti, Manfredonia, Bari, Otranto, Brundiſi, Tarento.
SICILY.	Palermo, Meſſina, Catania, Syracuſe, Noto.
ISLANDS of	Lipari, Strombulo, Rotte, Panaria, Elicuſa, Capri, Iſchia, Ponza, Pianoſa, &c.

The Houſe of Auſtria poſſeſes

MILANESE.	Milan, Pavia, Novara, Como, Lodi, Cremona.
MANTUA.	Mantua.
TUSCANY.	Florence, Sienna, Piſa, Leghorn, Piombino. In Tuſcany, Lucca is a republic, and Maſſa Carrara a principality; and the coaſt del Preſidii, of which the capital is Orbitello, is ſubject to the King of Naples.
The Duke of PARMA's Territories.	Parma, Placentia, Guaſtalla, Caſtiglione, Luzzara.
GENOESE Territories.	Genoa, Savona, Vado, Noli, Final, Albenga, St. Remo, Ventimiglia, Monaco, Rapallo, Levigna, Spezia.
ONEGLIA.	Is ſubject to the French.
The Duke of MODENA's Territories.	Modena, Mirandola, Rhegio, Borſello, Carpi.
VENETIAN Territories.	Venice, Padua, Verona, Breſcia, Crema, Bergamo, Vincenza, Rovigno, Treviſo, Belluno, Aquileia, Udia Capo de Iſtria.
POPE's Dominions.	Rome, Tivoli, Freſcati, Oſtia, Albano, Viterbo, Civita Vecchia, Bracciano, Caſtro, Orvietto, Aquapendente, Spoletto, Narni, Terni, Perugia, Ancona, Loretto, Urbino, Peſaro, Semigalia, Ravenna, Rimini, Bologna, Ferrara, Comachia, [St. Marino, a republic.]

The Engliſh King holds

CORSICA I.	Baſtia, Bonifacio.

The Knights of St. John of Jeruſalem poſſeſs.

MALTA I.	Malta or Valetta.

336. *Climate, Soil.*] Italy is of a kindly ſoil and climate, and produces not only the neceſſaries, but comforts, of life in great abundance; each diſtrict poſſeſſing ſome peculiar excellency, and affording ſome valued

valued commodity: however, the choiceſt wines, fruits, and oil, are among the moſt general productions; but, notwithſtanding this abundance, the natives in general are far from being happy in their circumſtances, extenſive tracts of land lying uncultivated, and the air itſelf being conſiderably affected by the nature of the ſoil. The Campagni di Roma, in particular, which the ancient Romans eſteemed peculiarly ſalubrious, is now become almoſt peſtilential, from the decreaſe of population, and the relaxation of induſtry. The air, however, in the northern parts of the country, particularly among the Alps, and in their vicinity, is cold and wholeſome; and, in other parts, the ſea-breezes refreſh the natives, and mitigate that intenſeneſs of heat, which might be expected from it's ſouthern ſituation.

337. *Animals, Vegetables.*] The animals found in Italy are the ſame in general with thoſe of France, Swiſſerland, and Germany.

The vegetables are corn, rice, olives, grapes, oranges, lemons, citrons, pomegranates, almonds, mulberries, figs, peaches, nectarines, apricots, pears, apples, filberts, cheſnuts, &c. Some of the mountains are covered with aromatic herbs, trees, ſhrubs, and evergreens; as thyme, lavender, laurel, bays, wild olive-trees, tamarinds, juniper, oaks, and pines. Calabria, in Naples, produces a ſort of aſh, from which flows that well-known drug, called manna; the cork-tree is alſo a native of Italy; and truffles grow here naturally in as great plenty as muſhrooms with us.

338. *Mountains, Mines, Springs.*] The moſt remarkable mountains in this country are the Alps and Apennines; the other mountains are Mons Maſſicus, Monte-Nova, Maſſo Monte, Garo, Monte Barbaro, St. Angelo, and the volcanos of Ætna, Veſuvius, and Stromboli.

Many of the mountains produce emeralds, jaſper, agate, porphyry, lapis lazuli, and other valuable ſtones. Mines of iron and copper have been diſcovered in a few places; and a mill for forging theſe metals has been erected near Tivoli, in the kingdom of Naples. Some of the Italian iſlands are ſaid to contain mines of gold, ſilver, lead, iron, ſulphur, and alum, though, in general, they are much neglected, and curious cryſtals and corals are found on different parts of the coaſt; beautiful marble of almoſt every ſpecies is alſo very plentiful.

Mineral ſprings of various qualities abound in different parts of Italy.

339. *Rivers, Lakes.*] The principal rivers of Italy are the Po, the Adige, the Arno, and the Tiber.

The principal Italian lakes are the Maggiore, Lugano, Como, Iſco, and Garda, in the north; and the Perugia, or Thraſimene, Bracciana, Terni, and Celano, in the interior parts.

340. *Commerce, Manufactures.*] Italy was long the moſt commercial nation of Europe; it's manufactures are various, and it's trade in general may yet be pronounced to be in a very flouriſhing condition. It exports a great variety of the choiceſt wines and fruits, but ſilks are the greateſt articles of it's commerce. Very capital annual fairs are held at Aleſſandria, Cremona, Bergamo, Breſcia, Verona, Reggio, and

and Placentia; to which foreigners, as well as natives of each of the above places reſort.

341. *Curioſities.*] Italy affords an ample field of entertainment for every deſcription of curioſi.

The various reliques, which ſuperſtition accounts of ineſtimable worth, abound in this land.

The burning mountains, the variouſly impregnated waters, the mephitic air of the Grotto Del Cani, into which the poor dogs are forced, where they ſuffer a ſort of temporary death, for the entertainment of paſſengers: theſe, and a variety of other natural curioſities, induce the attention and reſearches of the philoſopher.

The artiſt finds here the moſt beautiful and elegant models, both ancient and modern; the architecture, the medals, the ſtatuary, the paintings fill him with enthuſiaſm.

But chiefly the hiſtorian and the antiquary, in this claſſic land, find a profuſion of their precious remains of antiquity. Not a mountain rears it's head, nor a river glides along, but has been celebrated by the ancients in ſong; ruins of former magnificence lie ſcattered over the grounds; and ſpots, heretofore rendered deſolate and deſert from the ravages of war, are at this day ſtill more ſolitary and waſte from indolence and monaſtic vows.

Through every ſtate of Italy the moſt ſuperb remains of architecture may be traced, which indicate the grandeur of the ancient Romans. The Appian, Flaminian, and Æmilian roads, the firſt two hundred, the ſecond one hundred and thirty, and the third fifty miles in length, are ſtill in many places entire. Magnificent remains of columns, porticoes, amphitheatres, circi, villas, temples, palaces, reſervoirs, bridges, and triumphal arches, preſent themſelves to the inſpection of the curious traveller; and, with the ſtupendous ſubterranean cloacæ and catacombs, in the vicinities of Naples and Rome, furniſh monuments of the extreme ſkill and perſevering induſtry of the ancient inhabitants of this country.

But ſo indifferent are the modern Italians in general about objects of antiquity, that the ancient city of Pœſtum, or Poſidonia, in the kingdom of Naples, was accidentally diſcovered by a painter's apprentice within the preſent century. Inexhauſtible mines of curioſities, however, are daily appearing among the ruins of Herculaneum, a city lying between Naples and Mount Veſuvius, which was nearly deſtroyed by an earthquake in the reign of Nero; and in the firſt year of that of Titus totally overwhelmed by a ſtream of lava from the neighbouring volcano, which, in it's progreſs, filled up the ſtreets, and overtopped the houſes in ſome places to the height of ſixty-eight feet, and in others one hundred and ten. Pompeia was alſo involved in the ſame deſtruction. In theſe ſubterranean cities entire ſtreets, ſhops, and houſes are diſcovered, and temples, ſtatues, buſts, pillars, paintings, furniture, and various utenſils; a prodigious number of manuſcripts alſo, which, however, it takes a tedious proceſs to unroll, but in which it is expected many of the loſt works of the ancients may be reſtored. From the very few ſkeletons found in this city, it appears that the inhabitants had generally eſcaped.

342. *Religion, Language.*] The Romiſh profeſſion is univerſally eſtabliſhed throughout Italy: however, the inquiſition is very much circumſcribed, and perſons of other perſuaſions live unmoleſted here. The government of the church of Rome is centered in the pope and cardinals; the eſtabliſhed number of the latter is ſeventy, but it is ſeldom complete. The conclave is an aſſembly of all the cardinals on urgent occaſions, particularly at the election of a pope; the conſiſtory, an aſſembly of the pope and cardinals.

The Italian language is originally derived from the Latin, with the intermixture of words from the Goths, Huns, Vandals, and other conquerors of Rome, and is remarkable for it's ſmoothneſs; almoſt every ſeparate ſtate, however, and, indeed, ſometimes the ſeparate ſtreets of the ſame city have different dialects; but the unwearied pains taken by the literary ſocieties of this country may probably, at laſt, fix the Italian into a ſtandard language. The Tuſcan ſtyle and manner of compoſition ſeem, at preſent, in the higheſt eſtimation.

343. *Literati, Artiſts, Schools.*] In Italy learning appears to be now at a very low ebb, though formerly it produced ſeveral great geniuſes. Galileo, Torricelli, Malpighi, Borelli, Strada, Fra, Paoli, Guicciardini, Bentivolio, Davila, Machiavel, Taſſo, Arioſto, Sannazarius, Fracaſtorius, Bembo, Vida, and Metaſtaſio, were all natives of this country; as were Cicero, Virgil, Horace, Salluſt, Livy, Tacitus, Lucretius, Julius Cæſar, Plautus, Terence, &c. in antiquity.

The painters, ſculptors, and architects of Italy have hardly been equalled by thoſe of any other nation. Raphael, Titian, Julio Romano, Correggio, Caraccio, Veroneſe, and many more have excelled in the firſt of theſe profeſſions, as Michael Angelo has in all the three. Bramante, Bernini, with ſeveral more of their countrymen, carried ſculpture and architecture to a great degree of perfection; and the antiques of this country may ſerve to ſhew the ſuperior excellence of the ancients in the fine arts.

There is in Italy a multiplicity of academies and literary ſocieties, beſides the univerſities of Rome, Venice, Florence, Mantua, Padua, Parma, Verona, Milan, Pavia, Bologna, Ferrara, Naples, Piſa, Salerno, and Peruſia.

344. *Hiſtory, Government.*] Italy was inhabited in antiquity ſucceſſively by the Umbri, the Pelaſgi, and the Hetruſcans. The imperial Rome, founded about 753 before the Chriſtian era, after many revolutions of government, and many civil and foreign wars, had, on the coming of Jeſus, extended it's empire over the greateſt part of the known world; but the Roman power declined greatly in the weſtern part of the world, upon the removal of the ſeat of empire to Conſtantinople; and accordingly the imperial city, from the year 410, through ſome centuries, underwent the revolutions and ravages of the Goths, Vandals, &c. in common with the other weſtern nations of Europe.

It would take volumes to explain the different forms of government eſtabliſhed in Italy; it is in the different ſtates, republican, ariſtocratical, monarchical, or eccleſiaſtical.

SECTION

Plate XXIV

Engraved for Walkers Geography &c.

SECTION XL.

Turkey in Europe.

The Grand Seignior's dominions are not confined to one quarter of the world, ſome of them being ſituated in Europe, ſome in Aſia, and others in Africa.

European Turkey is ſituated between ſeventeen and forty degrees of eaſt longitude, and between thirty-ſeven and forty-nine degrees north latitude. It is bounded by Ruſſia, Poland, and Sclavonia on the north; by Circaſſia, the Black Sea, the Propontis, Helleſpont, and Archipelago on the eaſt; by the Mediterranean on the ſouth; and by the ſame ſea, together with the Venetian and Auſtrian territories on the weſt.

345. *Diviſions.*] Turkey in Europe, lying in the moſt genial climates, contains ſome of the moſt fertile provinces in the world. It is divided as in the following table.

Provinces.	*Chief Towns.*
CRIM and LITTLE TARTARY,	Precop, Bachiſeria, Kaffa.
BUDZIAC TARTARY,	Oczakow.
BESSARABIA,	Bender, Belgorod.
MOLDAVIA,	Jazy, Chotzim.
WALLACHIA,	Tergoviſc.
BULGARIA,	Widin, Nicopoli, Siliſtria, Scopia.
SERVIA,	Belgrade, Semendria, Niſſa.
BOSNIA,	Seraio.
ROMANIA,	Conſtantinople, Adrianople, Philippopoli.
MACEDONIA,	Strymon, Conteſſa.
JANNA,	Salonichi.
LIVADIA.	Athens, Thebes, Lepanto.
EPIRUS,	Chimæra, Butrinto, Scodra.
ALBANIA,	Durazzo, Dulcigno, Drino.
DALMATIA,	Zara, Narenza.
RAGUSA,	Raguſa, a republic.
CORINTHIA,	Corinth.
ARGOS,	Argos, Napoli de Romania.
SPARTA,	Miſitra, formerly Lacedemon.
OLYMPIA,	Olympia, or Longinica.
ARCADIA,	Modon, Coron.
ELIS.	Patras, Elis, or Belvidere.

The iſlands of European Turkey are Negropont; Lemnos; Tenedos; Scyros; Leſbos, or Myteline; Scio, or Chios; Patmos; the Cyclades, Dalos; Paros; Cerigo, or Cytherea; Santorin; Rhodes; Candia; Cyprus; and the iſlands in the Ionian Sea, viz. Sapienza; Strivali; Zante; Cephalonia; Santa Maura; Corfu; and Iſola del Compace; the ancient Ithaca, famous for being the kingdom of Ulyſſes, and ſeveral others of inferior note.

346. *Climate, Soil.*] The air of Turkey in Europe is naturally extremely ſalubrious and friendly to the human conſtitution; but, from the want of cultivation, and the indolence and uncleanlineſs of the Turks in their manner of living, the plague frequently makes dreadful ravages; though the Mahometan doctrine of fatality, and the prevalence of cuſtom, render the natives, in general, very unconcerned about it. The ſoil being univerſally fertile, all the neceſſaries, and many of the luxuries of life, are equally good and cheap. The ſeaſons are regular and pleaſant, and no country in the world abounds more in pure and ſalubrious waters, which invite the Turks to frequent ablutions, as well on account of pleaſure as religion.

347. *Vegetables, Minerals, and Animals.*] Where the ſmalleſt degree of induſtry has been exerted, the ſoil is prolific to exceſs; and, excluſive of corn, wine, oil, garden and pot-herbs in the utmoſt abundance, this country produces, in amazing perfection, oranges, lemons, citrons, pomegranates, figs, almonds, coffee, olives, and cotton. Beſides theſe valuable productions, it affords many drugs not common in other European countries; nor are the bowels of the earth deficient in metals and minerals. At Potyſtoli, in Macedonia, there are mines of gold and ſilver; and Greece affords iron, lead, the moſt beautiful marbles, alum, and ſulphur.

Theſſalian, or Turkiſh horſes are both beautiful and ſerviceable, and the black cattle, eſpecially in Greece, are large and excellent. The goats are extremely valuable to the natives, both on account of their milk and fleſh. The large eagles, which abound in the vicinity of Badadagi furniſh the beſt arrow-feathers for the Turkiſh and Tartarian archers, and they are accordingly ſold at an immenſe price. Partridges are very plentiful, as well as moſt other European fowls, and quadrupeds, both wild and domeſtic. The rivers abound in fiſh, but the Mahometans ſeem by no means partial to the uſe of animal food.

348. *Mountains, Waters.*] The mountains in this country are ſome of the moſt fruitful and celebrated of any in Europe. Mount Athos ſtands on a peninſula running into the Ægean Sea; the Mounts Pindus and Olympus, celebrated in Grecian fable, divide Theſſaly from Epirus. Parnaſſus, famous in poetry for being conſecrated to the Muſes is well known, as well as Mount Hermus; but moſt of the other mountains, and indeed ſome of theſe have changed their names.

The principal ſeas are the Euxine, or Black Sea; the Palus Mæotis, or ſea of Aſoph; the ſea of Marmora; the Archipelago; the Ionian Sea and the Levant; the Straits of the Helleſpont and Boſphorus are famous in modern as well as in ancient hiſtory.

The

The chief rivers in European Turkey are the Danube; the Save; the Neister; the Dnieper, or Boristhenes; and the Don, or Tanais; with several others, which, though of inferior consideration, have been highly celebrated by poets and historians.

The most remarkable lakes are Lago di Scutari, in the province of Albania, Lago di Plave, and Lago di Holti. The Stymphalis, in the province of Morea, was famous for its harpies, and ravenous birds; and the Peneus for being the source of the river Styx, celebrated by the ancient poets.

Mineral springs and baths, both hot and cold, are numerous in Turkey.

349. *Trade.*] Commerce and manufactures are but little regarded among the Turks. Tyre, Sidon, and Alexandria, with all those countries which were in possession of the commerce of the ancient world, are now enveloped in indolence and ignorance. The Turks command the navigation of the Red Sea, which opens a communication to the Indian Ocean; but they do not avail themselves of this opportunity of opening a trade with the wealthy nations of the East; and their capital, Constantinople, is situated on a narrow strait, which separates Europe from Asia, rendering an intercourse with the other parts of the world not only practicable but easy; yet the Mahometans, disregarding these combined local advantages, and chewing of opium to the ruin of their constitution, dose away life in stupid inactivity.

This empire produces all the commodities necessary for the most extended plan of industry and commerce. The Turks, however, alike averse to mental and corporeal exertions, content themselves with manufacturing cottons, carpets, leather, and soap, but export the most valuable of their commodities, such as silks, drugs, and dying stuffs in their natural state, without improving their value by labour. The internal commerce of the empire, which is extremely contracted, is principally carried on by Jews and Armenians. In their traffic with the rest of Europe the Turks are entirely passive in the navigation; the English, French, Dutch, and other maritime powers, resorting thither with their commodities, and bringing back those of Turkey in their own bottoms; indeed, the Turks themselves (excepting a fleet of armed gallies) are possessed only of a few coasting-vessels, which never attempt any distant voyages.

350. *Curiosities.*] European Turkey, particularly Greece, may be considered as the storehouse of antiquities, and may, as well as Italy, be called classic ground; here the mountains and rivers, as well as the magnificent remains of the works of the ancients, claim, from their celerity in Grecian song, the attention of the antiquary.

The temple of Minerva at Athens, the temple of the eight winds, and the lantern of Demosthenes, are still entire. The ruins of Neptune's temple, and the theatre where the Isthmean games were celebrated, are still visible on the Isthmus of Corinth; as are the ruins of the temple of Apollo, at Castri. On the south of Mount Parnassus are some marble steps that descend to a running water, supposed to be the celebrated Castalian spring; and the niches in the rock, where

ſtatues were formerly placed, are ſtill diſcernible; and in Livadia, the ancient Bœotia, the famous oracular cave of Jupiter Trophonius, cut out of a rock.

351. *Language, Learning.*] The radical languages of this empire are the Sclavonian, the Greek, the Arabic, and the Syriac; all which are, in a manner, blended in the preſent dialect.

Learning is at a very low ebb among the Turks, who, in general, expreſs the moſt ſovereign contempt for it. Greece was once the nurſery of genius, arts and ſciences, and produced in ſculpture, Phidias, Polycletus, Myron, Lyſippus, Praxiteles, and Scopas; in painting, Apollodorus, Zeuxis, Parrhaſius, Pamphilus, Timanthes, Apelles, Ariſtides, and Protogenes; in poetry, Homer, Eſchylus, Sophocles, and Euripides; in proſe, Herodotus, Xenophon, and Iſocrates, Thucydides, and Demoſthenes; and in the more ſevere exerciſes of mathematics and philoſophy, Pythagoras, Euclid Archimedes, Socrates, Plato, Ariſtotle, and Xenophon. This ancient ſeat of learning now produces a numerous tribe of biſhops, prieſts, and monks; but, in general, they are as ignorant as the Turks themſelves, whoſe education ſeldom extends farther than the reading of their native language and the Koran. There are, however, ſome ſchools, colleges, and academies, both of Turks, Jews, and Greeks. Some years ago a printing-houſe was opened at Conſtantinople, where books of all kinds were allowed to be printed, except on matters of religion; and even ſome of the Turks underſtand ſo much of aſtronomy as enables them to calculate an eclipſe; but the number is very ſmall, and they are generally regarded as perſons of extraordinary ſagacity.

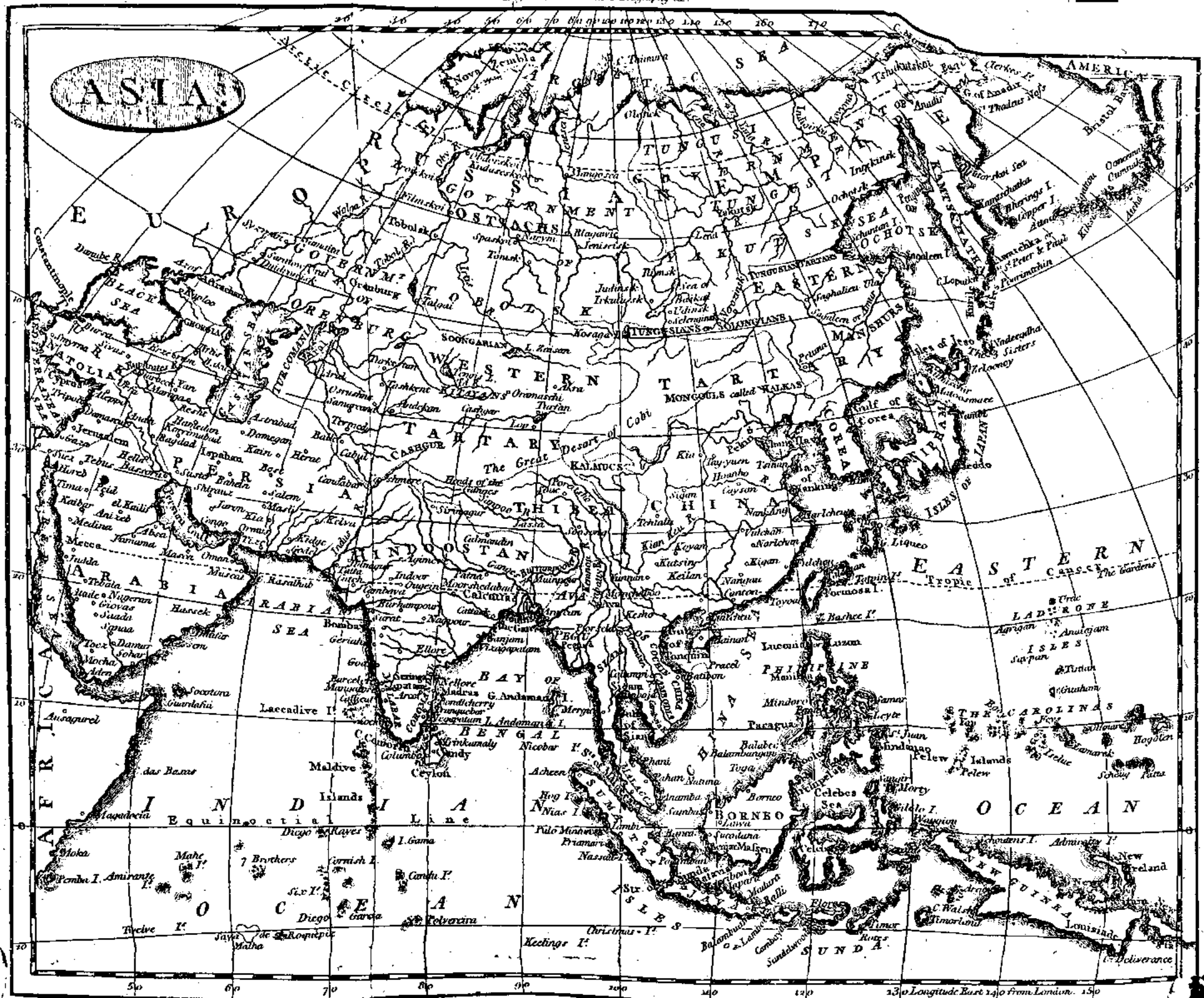
352. *Profeſſion.*] The Turks univerſally agree in the general belief of Mahomet's divine legation, but are divided into as many different ſects as the profeſſors of Chriſtianity. The chief eccleſiaſtic, who is called the Mufti, ſignifying an expounder of the law) is of ſuch dignity, that, whenever he comes into court, the emperor himſelf riſes from his ſeat, and advances to meet him.

On pecuniary conditions other profeſſions are tolerated in Turkey, and Jews, Greeks, Armenians, with other profeſſions of Chriſtianity, are numerous. (See Art. 136.)

353. *Hiſtory.*] In European Turkey is included the place of the ancient ſtates of Macedon and Greece. Theſe celebrated people, their politics, and revolutions, were, on the commencement of the Chriſtian era, loſt in the general conqueſts of the Romans. To the laſt remains of the Greek, or Eaſtern Roman empire, the Turks put a final period by the conqueſt of Conſtantinople, in 1453.

PART

Engraved for Walkers Geography &c.



PART VII.

DESCRIPTION OF ASIA.

ASIA is remarkable for being the principal ſcene of Hebrew hiſtory; it was here, according to their chronology, that the human race firſt had their beginning, and after the deluge, it became a ſecond time, the nurſery of mankind; it was here the ſciences and arts had their origin; here the firſt empires and kingdoms were founded, empires now forgotten, but which in their day lorded it over the reſt of the world; and here churches were firſt gathered in the Chriſtian name.

This diſtinguiſhed quarter of the globe is remarkable for the ſerenity of it's air, and the richneſs and fertility of it's ſoil, which brings forth the moſt delicious fruits and fragrant plants, ſpices, gums, and balſams in exuberant profuſion. In the deſcription of the patriarch Abraham ſitting in the tent door in the heat of the day, and lifting up his eyes, and looking, there ſeems a natural repreſentation of the manners of the Aſiatics at this day: reſt they love, and in this they indulge; ſuch are the manners of the ſouthern inhabitants. Thoſe on the north are more hardy and alert. The native of Siberia, wrapped up in furs, and drawn by his dogs over immeaſurable tracts of ſnow, and the roving Tartar on his fleet and active ſteed, ſcouring along the deſert, are in manners and way of life, a contraſt to thoſe who recline at their eaſe, under the cooling verdure of the ſouth, or riding in ſtate on the towering elephant, by the ſpreading umbrella evade the ſcorching rays of the ſun. (See Sect. XI.)

Various forms of idolatry, and the doctrines of Mahomet ſpread over this extenſive continent. It's languages are the Arabic, Perſian, Malayan, Chineſe, Japaneſe, Tartarian, Ruſſian, and Turkiſh.

Aſia is bounded on the weſt by the Red Sea, the Mediterranen or Levant, the Archipelago, the Black Sea, and Europe; on the north by the Icy Sea; on the eaſt and ſouth by the Pacific and Indian Oceans. It is ſituated between twenty-five, and one hundred and eighty degrees of eaſt longitude, extending from the equator to the Frigid Zone, and is about four thouſand eight hundred miles in length, and four thouſand three hundred in breadth. It contains the following nations.

Countries.	Length in miles.	Breadth in miles.	Chief Cities.	Latitude.	Longitude from Greenwich in Degrees.	Longitude from Greenwich in Time.
	Bounds			D. M. S.	D. M. S.	H. M. S.
Independent Tartary	undefined, and as variable as the Tartars are excursive.		Samarcand	39 50 0 N.	69 0 — E.	4 36 — bef.
Mogulean Tartary			Tibet	37 — — N.	8 — — E.	5 40 — bef.
Chinese Tartary			Chynian	48 — — N.	12 — — E.	8 4 — bef.
Ruſſian Tartary			Toboliſki	58 12 18 N.	68 12 45 E.	4 38 41 bef.
Perſia	1300	1100	Iſpahan	32 25 0 N.	52 40 0 E.	3 31 20 bef.
India	2000	1000	Siam or Pegu	14 18 0 N.	100 50 0 E.	6 43 20 bef.
Moguls Emp.	2000	1500	Delhi	28 20 — N.	79 25 — E.	5 16 — bef.
China	1440	1160	Pekin	39 54 30 N.	116 14 15 E.	7 45 37 bef.
The Turkiſh Empire in Aſia includes the following:						
Georgia	210	140	Teflis	43 0 — N.	46 15 — E.	3 10 — bef.
Turcomania	360	300	Erzerum	39 56 35 N.	48 35 45 E.	3 14 23 bef.
Diarbec or Meſopotamia	560	310	Bagdat	33 20 0 N.	43 46 30 E.	2 55 6 bef.
Natolia	750	308	Burſa or Smyrna	38 28 7 N.	35 20 0 E.	2 21 20 bef.
Paleſtine	210	90	Jeruſalem	31 55 8 N.	27 19 45 E.	1 49 15 bef.
Syria	270	160	Aleppo	35 45 23 N.	37 20 0 E.	2 29 20 bef.
Part of Arabia	1300	1200	Mecca	21 45 — N.	40 55 — E.	2 52 — bef.

ASIATIC ISLANDS IN THE INDIAN AND PACIFIC OCEANS.

Names.	Chief Towns.	Claimed by, or trading with,	Names.	Chief Towns.	Claimed by, or trading with,
New Holland,	Sydney Cove.	Engliſh.	Gilolo,	Gilolo,	Dutch.
Kurile Iſlands,	No Town,	Ruſſians,	Borneo,	Borneo, Cay-tongee,	Open Trade.
Japan,	Jeddo,	Dutch.	Sumatra,	Achen, Ben-coolen,	Dutch and Engliſh.
Ladrone Iſlands,	Guam,	Spaniards.	Java,	Batavia, Bantam,	Dutch.
Formoſa,	Tai ouan fou,	Chineſe.	Andaman,	Andaman,	Open Trade.
Philipines,	Manilla,	Spaniards.	Nicobar,	Nicobar,	Open Trade.
Molucca,	Victoria Fort,	Dutch.	Ceylon,	Candy,	Dutch.
Banda,	Lantor,	Dutch.	Maldives,	Caridon,	Open Trade.
Amboyna,	Amboyna,	Dutch.	Bombay,	Bombay,	Engliſh.
Celebes,	Macaſſar,	Dutch.			

New Guinea, New Britain, New Ireland, New Hebrides, New Caledonia, New Zealand, are uncoloniſed; and the Friendly, Society and Sandwich Iſlands are but late diſcoveries.

SECTION

SECTION XLI.

Turkey in Aſia.

Aſiatic Turkey is about one thouſand miles in length from eaſt to weſt, and in breadth about eight hundred from it's northern extremity to where it mixes with the Arabian Deſerts. It has the Black Sea, and Circaſſia on the north; Perſia on the eaſt; Arabia and the Levant Sea on the ſouth; and the Archipelago, Helleſpont, and Propontis on the weſt, which ſeparate it from Europe. It is ſituated between the twenty-ſeventh and forty-fifth deg. eaſt longitude; and between the twenty-eighth and forty-fifth deg. north latitude.

This country was the principal ſcene of ſcripture hiſtory in antiquity, and, in later times, of thoſe romantic expeditions, the cruſades.

354. *Diviſions.*] It has been divided as in the following table.

Provinces.	*Chief Towns.*
EYRACO ARABIC or CHALDEA.	Baſſora, Bagdat.
DIARBEC or MESOPOTAMIA.	Diarbec, Orfa, Mouſul.
TURCOMANIA or ARMENIA.	Erzerum, Van.
CURDISTAN or ASSYRIA.	Ninive, Betlis.
GEORGIA, including MENGRELIA, IMARETTA, and part of CIRCASSIA.	Amarchia, Gonie. Georgia hath lately claimed independence, and put itſelf under the protection of Ruſſia.
NATOLIA.	Burſa, Nici, Smyrna, Epheſus.
AMASIA.	Amaſia, Trapezond, Sinope.
ALADULIA.	Ajazzo, Marat.
CARAMENIA.	Satalia, Teraſſo.
SYRIA with PALESTINE.	Aleppo, Antioch, Damaſcus, Tyre, Sidon, Tripoli, Scanderoon, Jeruſalem.

The climate, air, ſoil, produce, animals, commerce, manufactures, language, and profeſſion of religion, in this country are much the ſame as in European Turkey.

355. *Mountains, Minerals, Waters.*] The mountains and rivers of this country are celebrated in the moſt ancient hiſtory; among the former are Olympus, Taurus, Anti-Taurus, Ida, Caucaſus, Arrarat, Hermon, and Lebanon; of the latter are the Euphrates, the Tigris, the

the Orontes, the Meander, the Sarabat, the Kara and the Jordan; the lakes are the Gaul-bugſhaw or Van, in Turcomania; the Aſchaneat, or Acſis near the town of Nice; and the ſea of Gallilee, or lake of Tiberias.

In the different diviſions of Aſiatic Turkey all manner of metals and minerals are found, and almoſt every kind of precious ſtones, emeralds in particular, of peculiar beauty, luſtre and ſize. This country alſo abounds with medicinal ſprings and baths.

356 *Curioſities.*] If we except the particular ſpots celebrated in ancient hiſtory, the curioſities of this country conſiſt chiefly in ancient ruins, eſpecially thoſe magnificient ones of Balbec and Palmyra. At Jeruſalem they pretend to ſhew the exact places where the particular actions and ſufferings of Jeſus happened, though it is well known that even the city itſelf does not ſtand on the ſame ſpot of ground it did at that period; and the places that have been ſignalized or rendered memorable, as the ſcenes of the moſt important events, with whatever enthuſiaſm they may be reſorted to by pilgrims or devotees, the convents, chapels, and temples, which Monkiſh zeal may have erected over them as ornaments, muſt, in the eye of the philoſophic antiquary appear as deformities, and as deſpoiling the places of ancient hiſtory of their former ſimplicity, and contradicting their deſcription.

357. *Hiſtory.*] Aſiatic Turkey has undergone a part of the moſt remarkable revolutions that have happened in the world; for it has all, or part of it, been in ſubjection ſucceſſively to the Aſſyrians, Babylonians, Medes, Perſians, Macedonians, Romans, Saracens, Tartars, and Turks. Abſolute deſpotiſm is the conſtitution of Turkey.

SECTION XLII.

Tartary.

The vaſt regions of Tartary, taken in their full extent, ſtretch from Muſcovy on the weſt, to the Pacific Ocean on the eaſt; and from the nations of China, India, Perſia, and Turkey on the ſouth, to the impenetrable frozen regions of the northern pole. It lies on the north of the thirtieth deg. north latitude, and extends from fifty to one hundred and ninety deg. eaſt longitude. It's grand diviſions are Ruſſian, Chineſe, Mogulean, and Independent Tartary. The boundaries of this country, which is almoſt, or perhaps altogether, as extenſive as the whole of Europe, and inhabited by Tartars of many different deſcriptions, are but incorrectly defined by geographers, they are often unknown even by the neighbouring nations. The line, for inſtance, that

that divides Muſcovy from Tartary, is not known even to the Ruſſians themſelves; the ſame may be ſaid of the boundaries that ſeparate it from China and Perſia: the truth is, thoſe parts of the country, through which the lines of diviſion paſs, are very thinly, if at all, inhabited; they are deſert and waſte, and therefore of very little value. It's dimenſions, therefore, and diviſions, are rather involved in obſcurity; but geographers have made them as follows; length four thouſand miles, breadth two thouſand four hundred.

358. *Diviſions.*

Provinces.	*Towns*	*Provinces.*	*Towns.*
Kamtſchatka.	Petropauloufki.	Oſtiak.	Kortſkoi.
Jakutſkoi.	Jakutſkoi.	Circaſſian and	Terki.
Bratſki.	Bratſki.	Aſtracan Tartars.	Aſtracan.
Thibet and	Poion.	Siberia.	Tobolſkoi.
Mongul Tartars.	Kudak.	Kalmuc and	Bokharia.
Samoieda.	Mangaſia.	Uſbec Tartars.	Samarcand.

359. *Climate, Soil, Animals.*] The ſoil of this extenſive country varies from ſpontaneous fertility, on it's ſouthern confines, to where it is ſtiffened in frigidity on the north, and it's climate or air, and it's animals, correſpond with the variety.

The mountains, woods, and deſerts of Tartary abound in various kinds of deer and wild-fowl. Here are likewiſe wild mules and horſes, camels, dromedaries, wild boars, tigers, leopards, goats, foxes, bears, wolves, lynxes, and a variety of other animals; and the rivers and lakes abound both in fiſh and fowl.

360. *Mountains, Waters.*] The principal mountains are thoſe of Caucaſus in Circaſſia, which extend from Aſia Minor, through the north part of Perſia, as far as the Indies and the burning mountains of Kamtſchatka. The mines in Siberia are ſaid to contain gold, ſilver, iron, copper, lapis lazuli, jaſper and loadſtones.

The principal rivers are the Wolga, the Oby, the Geneſa, or Jenſka, the Lena and Argun. The principal lakes are the Baikal, the Kiſan and the Kologal.

361. *Trade.*] The principal articles of commerce with the few Tartars who trade, are ſkins, beavers, drugs, and fiſh. The natives of Aſtracan, however, carry on a conſiderable traffic with the Perſians in red leather, woollen and linen cloth, &c. and the court of Ruſſia has ſent among them ſome French refugees and other mechanics and huſbandmen, to inſtruct them in the culture of vines and mulberry trees, for the eſtabliſhing a ſilk manufacture, and the making of wines.

Since the baniſhment of Swediſh and Ruſſian priſoners into Siberia, ſome manufactures have commenced there.

362. *Manners, Language.*] The manners, the profeſſions of religion, and the languages of the Tartars are various. The Manchew language is thought by the Tartars to be the moſt elegant and copious in the world. (See Art. 131.)

363. *Curioſities.*] In ſome of the deſerts of Tartary almoſt inacceſſible, ſome ſpacious edifices have been diſcovered almoſt covered

with

with the ſand, and in theſe have been found urns, lamps, ſtatues, armour, trappings for horſes and elephants, and of manuſcripts ſome thouſands of volumes. Theſe may ſhew that Tartary has not always been unacquainted with ſciences and arts. Zinghis Khan and Tamerlane, thoſe dreadful ravagers of the earth, and deſtroyers of the human race, and their early deſcendants, were famous for their learning. Bokharia, and the neighbouring provinces then formed the ſeat of literature, politeneſs, and luxury.

364. *Hiſtory.*] But little is known of the ſtate of Tartary in antiquity, when it was called by the name of Scythia. In the beginning of the thirteenth century, Jenghis Khan, of the tribe of the Mongols in Moguleſtan, carried the ravages of war through almoſt all the countries of the eaſt; and after him Tamerlane, in the latter end of the fourteenth century, ſpread his conqueſts over a principal part of Aſia.

SECTION XLII

China.

The great empire of China lies on the eaſtern borders of the continent of Aſia, and is divided from Chineſe Tartary on the north by a prodigious wall, and in ſome places by inacceſſible mountains; on the eaſt it is bounded by the Yellow Sea, and Pacific Ocean, which ſeparates it from America; on the ſouth by the Chineſe Sea and the kingdom of Tonquin; and on the weſt by Tibet, between which and China vaſt deſerts and mountains intervene.

365. *Diviſions.*] It is ſituated between twenty-one and forty-four deg. north latitude, and ninety-four and one hundred and thirty-three deg. eaſt longitude.

Provinces.	*Towns.*	*Provinces.*	*Towns.*
Niuche.	Niuche.	Xantum.	Chinchis.
Corea.	Petcheo.	Nanking.	Nanking.
Loatonge.	Chinyam.	Chekiam.	Nimpo, Chuſan.
Pekin.	Pekin.	Honan.	Honan.
Xanſi.	Tayen.	Huquam.	Toangfu.
Xenſi.	Sigan.	Kiamſi.	Nankan.
Fokien.	Fochen, Amoy.	Suchuen.	Tchinteu, Queyang.
Canton.	Canton.	Quechen.	Quechen.
Quamſi.	Quelin.	Yunnan.	Yunnan.

The Chineſian Iſlands are Formoſa, Ainan, Macoa, and the Buſhee Iſlands.

366. *Climate, Soil.*] As this extenſive country lies under a variety of climates, the air is very different. The ſouth of China is expoſed

to

to tropical heats and periodical rains, while the rivers of the north are generally frozen for ſome months during the winter. The intervening parts are temperate and pleaſant. The ſoil is likewiſe equally variable, though every part of the country is fertile, either from nature or indefatigable induſtry. The lands are very flat in many places; and, as the Chineſe delight in plains, they have levelled, with great labour, many ſpots among the mountains. In thoſe provinces which are leaſt fertile, the mountains are clothed with abundance of fine trees, which, by means of rivers and canals, are conveyed to every part of the empire.

367. *Plants, Animals.*] China produces corn, and a variety of grain, particularly rice, in the culture of which the Chineſe are very curious, as they are likewiſe in that of cotton, from which two articles the chief of them are cloathed and fed; teas, ſugar, tobacco; and fruits, as apples, pears, apricots, peaches, figs, grapes, eſpecially excellent muſcadines, oranges, pomegranates, pine-apples, olives, medicinal herbs and roots, and many others, to which we are ſtrangers; canes, junks, bamboos, the pea-tree. pepper-tree, varniſh-trees, the tallow-tree, white wax-tree, oil-tree, banana-tree, the mango, and many others, whoſe perpetual bloom, unfading verdure, and odoriferous ſcents, would render them the admiration of the fineſt European gardens.

The animals of this country are elephants, camels, horſes, oxen, mules, ſheep, hogs, tigers, leopards, bears, boars, buffaloes, a variety of deer, among which are the odoriferous roebuck, ſo called from it's having a bag of very ſtrong muſk, and a very ſmall ſtag, kept in gardens for their extraordinary beauty, with a great number of other animals.

The birds are eagles, cranes, ſtorks, the birds of paradiſe, golden hens, pelicans, peacocks, pheaſants, geeſe, ſwans, ducks, and a numberleſs variety of others.

Moſt of the fiſh common in Europe are found here, beſides ſeveral of an extraordinary fine flavour, and vaſt magnitude, wholly unknown among us. The yellow fiſh, caught in the river Yang-tſe-kiang is of an exquiſite taſte, and ſome of them are eight hundred pounds weight. Thoſe beautiful little creatures, the gold and ſilver fiſh of China, abound here in the ponds of the curious.

The ſhining beauty and diverſity of colour in their inſects baffle deſcription, and the women fix them, by way of ornament, on their heads; but the moſt profitable are their prodigious numbers of ſilk-worms and bees. They have another valuable ſpecies of inſects, which prepare a wax more beautiful than that of bees, and quite tranſparent.

368. *Mountains, Mines, and Springs.*] In China Proper there are four mountains, but in the following provinces they are extremely numerous: Yunnan, Kœi-tckeiou, Se-tchuen, Fo-kien, the weſt part of Tcho-kiang, and the inland parts of Quangtong and Quangſi, the province of Kiangnan, and the great diſtrict of Hœi-tcheou, are rendered almoſt unhabitable from their amazing numbers and height.

Theſe mountains abound with various metals and minerals, among the former of which are ſeveral mines of gold and ſilver, but, from political motives, they are not much worked; great numbers of people, however, entirely ſubſiſt by gathering the particles of the gold, that are waſhed down from the mountains. Here are likewiſe mines of copper, ſome of which are white, lead, iron, and quickſilver, great quantities of porphyry, and quarries of the fineſt marble, rock cryſtal, and aſbeſtos: pit-coal is dug in great plenty, as well as loadſtones, cinnabar, vitriol, alum, lapis lazuli, and a kind of jaſper.

Medicinal waters, both hot and cold, abound in China, and there are ſeveral curious ſprings, which regularly ebb and flow. The waters of a lake in the iſland of Haynan are ſaid to be ſo greatly ſaturated with petrifying particles, that all bodies, even fiſhes, loſe their original nature, and are converted into ſtone.

369. *Rivers, Lakes, Canals.*] The rivers of China are the Kyam, or Blue River; the Hoambo, or Yellow River; the Xo, whoſe waters are ſuppoſed to cure divers diſeaſes; the Kin-xa, or Golden River, ſo named from the great quantity of gold-ſand it contains; the Yamour; the Argun; and a number of others.

The lakes are numerous, two of the principal among them are Po-Kiang and Sihu.

But the canals are moſt extraordinary: by means of theſe the lakes and navigable rivers, throughout all the parts of this extenſive empire, for thouſands of miles, have a communication with each other, and the waters ſeem alive with the multitudes of veſſels, barges, and boats on their ſurface.

There is ſcarce a city or village in China, eſpecially in the ſouthern provinces, but enjoys the benefit of ſome navigable river, lake, canal, or arm of the ſea; ſo that almoſt as many people reſide on the water as on the land. Wherever there is a town on ſhore there is another of boats upon the water, and many people are born, live, and die there; hogs, poultry, dogs, and other domeſtic animals being kept on board, as on ſhore.

Beſides theſe veſſels, there are a prodigious number of floats of timber perpetually paſſing up and down the rivers and canals, which carry a prodigious number of people upon them. Some of theſe floats are a mile in length, and the proprietors build little huts upon them, where they live till they have diſpoſed of their timber, which they carry ſometimes in this manner a thouſand miles.

The canals of Europe appear diminutive, when compared with thoſe of this country. In ſome provinces, however, the inland navigation of China is very incomplete, and attended with great trouble and danger, through their ignorance of the contrivance of locks. Where the country is not quite flat they muſt have, as with us, their upper and lower canals; the bottom of the paſſage between theſe, is an inclined plane of hewn ſtone, of which alſo the ſides of the canal are formed: the water pours rapidly down this ſluice, or paſſage, and boats, in deſcending from a ſuperior to an inferior canal, are abandoned to the fury of the current, notwithſtanding the danger that muſt attend ſo rapid a paſſage. On the other hand, in aſcending this ſluice,

or paſſage, they are dragged up by main force; four or five hundred boatmen, aſſiſted by captains, being neceſſary to draw a barge from a lower to a higher canal.

370. *Commerce and Manufactures.*] The Chineſe carry on a conſiderable traffic with the European nations, with whom they deal, for ready money, deſpiſing the manufactures of every country but their own. The articles exported from thence are raw ſilk, cotton, manufactured ſilks, gold and ſilver ſtuffs, painted gauzes, teas, china-ware, lackered-ware, paper, and the ink which is well known to us under the name of Indian ink.

371. *Curioſities.*] Among the mountains of China are ſome remarkable volcanos and waterfalls. The celebrated wall, which divides China from Tartary, is carried over mountains and vallies; it is one thouſand five hundred miles long, from twenty to twenty-five feet high, and ſufficiently broad for ſix horſemen to travel abreaſt, without the ſmalleſt inconvenience. Though this wall has ſtood more than one thouſand eight hundred years, it is ſtill pretty entire, being compoſed chiefly of bricks, and built with ſuch a ſtrong cement, or mortar, as ſeems to bid defiance to the ravages of time; it is ſtrengthened by towers, gates, and bulwarks; and, before the conqueſt of China by the Tartars, was uſually garriſoned by a million of ſoldiers.

In the plains, the canals are a wonderful improvement, and beſpeak the extraordinary diligence of the people; among the rocks and mountains their roads are ſtill more aſtoniſhing.

Over the river Saffrany there is a bridge, conſiſting of a ſingle arch, whoſe ſpan is four hundred cubits, and it's height five hundred, and it connects two mountains. The Cientao, or road of pillars, in the province of Xenſi, is ſufficiently broad for four horſes to travel abreaſt, and near four miles in length; it is defended by an iron railing, and unites the ſummits of ſeveral mountains, in order to avoid all the devious windings to the capital; it is partly ſupported by beams, but in moſt places, from the great depth of the vallies, it reſts upon ſtone pillars of a tremendous height. The bridge of chains, hung over a frightful valley, in the neighbourhood of King-tung, appears a ſtill more extraordinary kind of communication. Some of the Chineſe bridges are built upon barges, chained together in ſuch a manner as to ſeparate at pleaſure, and let veſſels paſs them. The bowels of ſome of the mountains are penetrated with ſpacious caverns, and others have roads cut through them of conſiderable length. (See Art. 132.)

The triumphal arches in China, erected in memory of their great princes, legiſlators, philoſophers, &c. are ſaid to be one thouſand one hundred, of which two hundred are remarkably magnificent. And ſuperſtition has erected to fabulous deities pagodas, or temples, even in the moſt arid deſerts, and on the moſt barren mountains with incredible labour and expence. Before the gates of every great town there are likewiſe beautiful towers of a ſimilar conſtruction. Of all theſe towers that of Nan-king claims the pre-eminence: it is called the Porcelain Tower, being wholly covered with the moſt beautiful china, which ſtill retains it's original beauty, though it has ſtood near four

four hundred years. The tower is built in an octangular form, and is nine ſtories high; between every ſtory there is a kind of penthouſe, ſhed, or projecting cornice, on the outſide of the tower, on the corners of which are hung little bells, which jingle with the wind. This tower, from the ground to the top of the ball which terminates it, is near three hundred feet high, each ſtory decreaſing in breadth as it riſes in height; and the whole forms an elegance of appearance beyond any ancient or modern piece of architecture to be met with in the eaſt.

The fire-works of the Chineſe exceed thoſe of all other nations both in beauty and variety.

372. *Language, Learning.*] The language of the Chineſe conſiſts only of three hundred and thirty words, which are all monoſyllables, at leaſt they are pronounced ſo ſhort, that there is no diſtinguiſhing above one ſyllable or ſound in them; but the ſame word, as expreſſed with ſtronger or weaker tone, has different ſignifications; accordingly, when the language is accurately ſpoken, it makes a ſort of muſic, which has a real melody, that conſtitutes the eſſence and diſtinguiſhing character of the Chineſe tongue. The characters of the Chineſe are as ſingular as their language; they have not, like us, any alphabet containing the elements, or, as it were, the principles of their words. Inſtead of an alphabet, they uſe a kind of hieroglyphics, whereof they have above eighty thouſand; every one of theſe characters ſignifies a word, or a whole ſentence, but their moſt learned men are hardly maſters of them all: thoſe, however, in common uſe do not exceed three thouſand, which are underſtood in every part of the empire.

Learning is eſſentially neceſſary to qualify a man for every public employment, and the only means of advancement in this part of the world; it is not therefore to be wondered that the Chineſe, in their ſkill in the ſciences, their reſearches and acquirements were ſuperior to every other diſtant nation that the Europeans have viſited.

There are a vaſt number of public libraries in China, each of which contains prodigious quantities of books; in every city there are colleges and obſervatories, and to watch the Heavens, both night and day, conſtitutes one of the chief employments of their learned. They have recorded an eclipſe which happened 2155 years before the Chriſtian era; but eclipſes and comets are the principal phenomena of which they have any account till much later periods. The Jeſuits aſſiſted the emperor in regulating the calendar, and from them much of their preſent mathematical knowledge is derived.

373. *Religion.*] Various forms of idolatry deform this improved country. Their deities appear to have been men eminent in their ſtations, particularly the inventors of arts and ſciences: they alſo worſhip inanimate, as mountains, woods, and rivers; but never form images, as is cuſtomary with moſt Pagans, and they acknowledge one Supreme Being.

The emperor, being of the Tartar Race, follows the worſhip of the Daly Lama. There are three other ſects in China, viz. the followers of Li-Laokun; the diſciples of the celebrated Confucius; and the worſhippers of the idol Fo, or Fohi, the founder of the Chineſe nation

Plate XXVI

Engraved for Wallers Geography &c.

nation, and this ſect is much more numerous than the former two. Perhaps, however, it would hardly be the part of candour to rank the ſublime doctrines of Confucius with the groſs and idolatrous tenets of the Chineſe; he taught that God was a moſt pure and perfect principle, and the fountain and eſſence of all beings; he enjoined on his diſciples the ſtricteſt morality, a diſregard of riches and pleaſure, and the exerciſe of every virtue: and this great and good philoſopher, by the innocent ſanctity of his manners, recommended his precepts in the expreſſive language of conduct, which ſpeaks louder than words.

374. *Hiſtory.*] This empire is certainly of very great antiquity; but, like other ancient nations, has been aggrandized by fables. Beſides the internal revolutions that have happened among the Chineſe, they have for 1000 years back, at different periods, had conteſts with the Tartars, by whom they were finally ſubdued in 1645, and their conquerors, ſince that period, have commixed with thoſe whom they ſubdued.

SECTION XLIV.

India.

All the iſlands in the Indian Ocean, and many in the Pacific, with the whole coaſt of Aſia, from Arabia to where it borders upon Japan, are ſometimes included under the general name of the Eaſt Indies; and under the diſtinct title of India, or Hindooſtan, is comprehended an extenſive country, bounded on the north by Tibet, and Uſbeck Tartary; on the ſouth by the Indian Ocean; on the eaſt by China, and the Pacific; and on the weſt by the Indian Ocean and Perſia. It is ſituated between one and forty degrees of north latitude, and between ſixty-ſix and one hundred and nine degrees eaſt longitude, comprehending the Mogul's empire, and numerous ſmaller kingdoms; extenſive continental territories, claimed by the Engliſh Eaſt-India Company, and ſettlements alſo of other European nations.

375. *Diviſions.*] This vaſt country is generally divided into three parts: 1. The Peninſula of India beyond the Ganges, on the eaſt; 2. On the north, the main land, or empire of the Great Mogul; 3. On the weſt, the Peninſula within, or on this ſide the Ganges. The two latter diviſions are alſo called the Hither India, or Hindooſtan, and the other the Farther India. The diviſions are all extenſive, and very populous.

The Farther Peninſula.

Kingdoms.	*Towns.*	*Kingdoms.*	*Towns.*
Acham,	Chandara.	Malacca,	Malacca.
Ava,	Ava.	Tonquin,	Cachao or Keccio.
Arracon,	Arracon.	Laos,	Lanchang.
Pegu,	Pegu.	Conchin China,	Thoanoa.
Martaban,	Martaban.	Cambodia,	Cambodia.
Siam,	Siam.	Chiampa,	Padram.

MOGUL'S EMPIRE.

Provinces.	*Towns.*	*Provinces.*	*Towns.*
Bengal,	Calcutta.	Multan,	Multan.
Engliſh,	Fort William.	Kaican,	Kaican.
	Huegly.	Cabul,	Cabul.
	Dacca.	Candiſh,	Medipour.
Engliſh and Dutch,	Malda.	Berar,	Berar.
	Chatigan.	Chitor,	Chitor.
	Caſſumbazar.	Ratipor,	Ratipor.
Naugracut,	Naugracut.	Narvar,	Narvar.
Jeſuat,	Rajapour.	Gualeor,	Gualeor.
Patna,	Patna.	Agra,	Agra.
Necbal,	Necbal.	Delly,	Delly.
Gore,	Gore.	Lahor, or Pencah,	Lahor.
Rotas,	Rotas.	Hendowns,	Hendowns.
Soret,	Jaganal.	Caſſimere,	Caſſimere.
Jeſſelmere,	Jeſſelmere.	Jengapour,	Jengapour.
Tata, or Sinda,	Tata.	Aſmer, or Bando,	Aſmer.
Bucknor,	Bucknor.		

The Hither Peninſula.

Coaſts.	*Chief Towns.*
COROMANDEL.	Madura, Tanjour, Trincombar, Danes.—Negapatan, Dutch.—Biſnagar, Portanova, Dutch.—Fort St. David, Engliſh.—Pondicherry, Conymere, French.—Coblon, Sadraſapatan, Dutch.—St. Thomas, Portugueſe.—Fort St. George, or Madras, Engliſh.—Pellicate, Dutch.—Golconda, Gani, or Coulor diamond mines.—Maſſulapatan, Engliſh and Dutch.—Vizacapatan, Engliſh.—Bimlipatan, Dutch.—Orixa.—Ballafore, Engliſh.
MALABAR.	Tegapatan, Dutch.—Angengo, Engliſh.—Cochin, Dutch.—Callicut, Tellicherry, Engliſh.—Cananore, Dutch.—Monguelore, Baſſilore, Dutch and Portugueſe.—Golconda diamond mines, Cawar, Engliſh.—Goa, Portugueſe.—Rajapore, French.—Dabal, Engliſh.—Dundee,

Shoule, Portugueſe.—Bombay, Engliſh.—Baſſaim, Salſette, Daman, Portugueſe.—Surat, Swalley, Barak, Engliſh and Dutch.—Amedabat, Cambaya, Diu, Portugueſe.

Polygamy, the doctrines of Mahomet, and various forms of idolatry deform many parts of this land. In the European ſettlements Chriſtianity is profeſſed. Each of the numerous kingdoms of India are governed by one, and ſometimes more kings, or princes, who exert the moſt deſpotic power over their ſubjects.

376. *Climate and Soil.*] The air in the northern parts of India is very dry and healthy, but in the ſouthern provinces, eſpecially in the vallies and low lands near the ſea, and rivers, it is very hot and moiſt. In ſome places they are obliged to erect their houſes upon high pillars, to ſecure them from the floods during the rainy ſeaſon, at which time they have no communication with each other but by boats; and ſuch ſtorms of wind, thunder, and lightning happen about the equinoxes on the ſhifting of the monſoons, as are ſeldom ſeen in Europe. The year is not divided into ſummer and winter, as with us, but into the dry and wet ſeaſons, or into the eaſterly and weſterly monſoons. The monſoons are periodical winds, which prevail in theſe tropical climates; during our ſummer they blow from the north-eaſt; and during our winter again from the ſouth-weſt. When the ſtorms ceaſe, which take place upon their changing, there are ſea and land breezes near the coaſt, which ſhift every twelve hours.

The ſoil is in general exceedingly fertile, eſpecially thoſe parts that are overflowed by the floods, which, like thoſe of the Nile, are periodical, and enrich the grounds with the mud and ſlime they depoſit on their ſurface.

377. *Plants, Animals, Minerals.*] India produces corn, rice, pepper, and a variety of garden plants and drugs; pomegranates, tamarinds, citrons, dates, grapes, almonds, guavas, cocoa-nuts, plumbs, plantains, mangoes, pine-apples, lemons, oranges, limes, melons, jaccas, mulberries, and a variety of apples, pears, and other fruits; ſugar-canes, cotton, indigo, &c.

The quadrupeds are elephants, rhinoceroſes, camels, dromedaries, horſes, aſſes, mules, oxen, and buffaloes; tigers, lions, leopards, wolves, jackalls, muſk cats, very large bats, apes, and monkies; red deer, fallow deer, elks, antelopes, ſheep, goats, kids, hogs, hares, &c. birds of the moſt beautiful plumage embelliſh the foreſt. The rivers abound in fiſh, but many of them are greatly infeſted by crocodiles. Serpents and ſcorpions abound in every part of India; and muſketoes, locuſts, and other inſects of a ſimilar nature, are very troubleſome to the inhabitants. The mines yield gold, diamonds, rubies, topazes, amethyſts, beryls, aſterias, or cats' eyes, and other precious ſtones, or gems. Travellers inform us, that mines of lead, iron, copper, and even ſilver, are found in Hindooſtan; and quarries of ſtone are in great plenty.

378. *Mountains, Rivers.*] The moſt remarkable mountains in India are thoſe of Caucaſus, which divide it from Uſbeck Tartary, and thoſe

of Naugracut, which ſeparate it from Tibet; beſides theſe there are chains of mountains, on both peninſulas, running from north to ſouth, almoſt the whole length of the country. On the hither, or Weſtern Peninſula, it is ſummer on one ſide of theſe mountains when it is winter on the other. Thus a ſouth-weſt wind prevails for months on the coaſt of Malabar, attended by prodigious and conſtant rains, while the weather is ſerene on the coaſt of Coromandel on the eaſt; and when, on the change of the monſoon, no veſſel dare venture to ſtay on the coaſt of Coromandel, they periodically return to Bombay on the weſt.

The principal rivers, in the Farther India, are the Domea, the Mecon, the Menan, and the Ava; in the Hither India, are the Indus and the Ganges. The Indians are perſuaded, that the Ganges does not take it's riſe from the boſom of the earth, but deſcends from Heaven into the paradiſe of Devendre, and from thence into Hindooſtan; they therefore hold it's waters in the greateſt reverence, crowding in multitudes from the remoteſt parts of the country to waſh in them; they think themſelves favoured by Heaven if they are permitted to expire on it's banks; and he who accidentally meets death by it's waters, is not only ſuppoſed to have been himſelf purified from ſin, but that even his ſurviving family participate in the bleſſing, and they are ever after treated with peculiar marks of reſpect and regard. Such are the miſtaken notions of that poor harmleſs race, the Hindoos, or Gentoos; their prieſts are the Bramins, the followers of the celebrated Brumma. To be a ſtranger among theſe people is a ſufficient ſecurity, proviſions are furniſhed by hoſpitality, and when a peaſant is aſked for water, he runs with alacrity, and fetches milk.

379. *Manufactures, Commerce.*] The different kingdoms and provinces of India traffic with each other, and with the neighbouring iſlands, the nations of China, Tartary, Perſia, and Arabia, but their principal trade is with European nations. The exports are gold, diamonds, ivory, ſilks, muſlins, chintzes, dimities, calicoes, lackered wares, and various toys, different kinds of gums, drugs, &c. From Europe are imported broad cloth, lead, flints, and cutlery wares, wrought plate, watches, and looking-glaſſes, with other goods of inferior value for the uſe of the natives.

The empire of Hindooſtan, particularly the kingdom or province of Bengal, from the mildneſs of it's climate, the fertility of it's ſoil, and the induſtry of the Hindoos, has been always remarkable for it's commerce; every village has it's canal, every town it's river, and the whole kingdom the Ganges, which, falling by various mouths into the Bay of Bengal, opens a communication with the ocean for exporting the produce and manufactures of this famous country. While the houſe of Tamerlane filled the throne of Hindooſtan, the balance of trade was greatly in favour of Bengal: it was at that period one of the richeſt, moſt populous, and beſt cultivated kingdoms in the world; the bullion it annually received from the Engliſh, Dutch, French, Danes, and Portugueſe; the gold from the Gulfs of Arabia and Perſia, and the treaſures from the other parts of India were prodigious. Even under the revolted viceroys it appeared ſuperior to the partial rapine of thoſe impolitic nabobs, who plundered the people but to ſquander it amongſt

amongſt them; and the catalogue of it's calamities ſeems only to have been filled by the coming in of foreigners. Since that period the troubles and civil wars which have ravaged this kingdom have been tragical in the extreme. The country has been depopulated, diſtreſs of every kind has ſucceeded to plenty and eaſe, many of the principal cities have been rendered deſolate, the moſt fertile fields in the world laid waſte, and near five millions of harmleſs and induſtrious people either expelled or deſtroyed.

380. *Languages.*] The inhabitants of Siam, in the Farther Peninſula, uſe two languages; the one called properly Siameſe, and the other Balli. the former, which is the language commonly ſpoken, has thirty-ſeven letters; the latter, which is the learned language, or that in which their books or writings are compoſed, has thirty-three letters, all conſonants; the vowels and diphthongs are expreſſed by peculiar characters diſtinct from the letters, as in the Hebrew. Both theſe languages are written from left to right, and reſemble the Chineſe in chiefly conſiſting of monoſyllables, and having neither conjugation nor declenſion; like that too, they are both highly accented, ſo that the delivery of them approaches nearly to ſinging.

The inhabitants of Malacca, in the Farther India, are accounted mere ſavages in their manners; yet their language is eſteemed the fineſt in all the Indies.

The languages of Hindooſtan, or the Hither India, are various, but may all be included under three general heads:

The Shanſcrit, an original language, intermixed with a number of words, and even phraſes, from the Perſian and Arabic, is univerſally ſpoken throughout the empire of Hindooſtan, and is the current language of the country.

The Perſian is the language of the polite circles, and prevails in moſt of the courts of the Eaſt, as the French does in thoſe of Europe.

The Arabic is the learned, or, if we may be allowed the term, the claſſical language of Hindooſtan: here, as in Perſia, their records and a few books are preſerved in this language. (See art. 133, 134.)

381. *Hiſtory.*] Of the ancient hiſtory of this country but little is known. Early in the thirteenth century it ſuffered the ravages of Jenghis Khan, and on the cloſe of the fourteenth century was conquered by Tamerlane, or Timur Beck. The Grand Moguls, or Emperors of Hindooſtan, are very emulous of tracing their deſcent from Tamerlane, and always pretend to reign in right of him. In 1738, Nadir Shaw, of Perſia, or Kouli Khan, ravaged Hindooſtan, and plundered Delhi, it's capital.

SECTION XLV.

Perſia.

Modern Perſia comprehends the ancient Hyrcania, Bactria, Suſiana, Parthia, Media, and part of Aſſyria, Iberia, and Colchis. This extenſive country is ſituated between the twenty-fifth and forty-fifth deg. N. latitude, and between the forty-fifth and ſixty-ſeventh deg. E. longitude. It is bounded on the eaſt, by the dominions of the Mogul, by Uſbec Tartary, the Caſpian Sea, and Circaſſia on the north; by the Indian Ocean, and the Gulf of Perſia, or Baſſora on the ſouth; and on the weſt by Arabia and the Turkiſh empire.

382. *Diviſions.*]

Diviſions.	*Chief Towns.*
EASTERN.	Meſched or Thus, Eſterabad, Herat, Gaſna, Candahor, Sigiſtan.
SOUTHERN.	Makeran, Lar, Gombroon, Ormus, Schiras.
SOUTH-WEST.	Schouſter, Caſbin, Iſpahan, Hamadam, New Julpha, Arnova, Courmebad.
NORTH-WEST.	Tauris or Ecbatana, Ardevil, Naxivan, Teflis, Gangea, Terki, Ferrabat, Gilan, Reſcod, Derbent, Baku.

383. *Climate, Soil.*] In thoſe parts bordering upon the mountains, which are uſually covered with ſnow, the air is very cold; in the midland provinces, it is naturally ſerene, pure, and exhilarating; but the hot winds, which ſometimes blow over long tracts of ſandy deſerts from the ſouth and eaſt, are extremely ſuffocating, and a blaſt ſometimes ſtrikes the traveller dead in an inſtant.

The ſoil varies as much as the air, being in ſome parts exceedingly barren, but in others very fruitful, eſpecially where they can turn the ſtreams of water into the plains and vallies.

384. *Plants, Animals, Minerals.*] The animal and vegetable productions of Perſia are much the ſame with thoſe of India. Their ſheep, however, are remarkable for having ſix or ſeven horns each, and their tails very heavy. The Perſian horſes are very beautiful and high ſpirited.

Perſia produces copper, iron, lead, antimony, ſulphur, ſaltpetre, and emery: here are plains near twenty leagues over, covered with ſalt, and ſome with ſaltpetre and alum; and in ſome parts of Carmania in particular, the ſalt is ſaid to be ſo hard, that the poorer

ſort

ſort of people uſe it inſtead of ſtone for building their cottages. In the provinces of Fars and Skirvan, there are great quantities of bole-armoniac, and a ſort of marle, uſed by the natives inſtead of ſoap. Near the Caſpian ſeas, there are ſprings of naphtha, which frequently takes fire on the ſurface, and in great quantities runs flaming into the ſea, to an almoſt incredible diſtance from the ſhore. There are different kinds of naphtha in Perſia, the dark kind ſupplies the place of oil in lamps, and is uſed as fuel; the white ſort, found in the Peninſula of Apcheran, is both taken as a cordial and medicine, and uſed externally; it is ſaid to be carried into India, where, being properly prepared, it makes a moſt beautiful and durable varniſh.

The Perſian marble is of various colours, and ſome is almoſt as tranſparent as cryſtal; mineral azure is alſo found in this country, but the moſt valuable mines are thoſe in which the turquois ſtones are contained.

385. *Mountains, Rivers.*] The principal mountains of Perſia, are thoſe of Caucaſus and Arrarat, ſometimes called the mountains of Daghiſtan, which fill all the iſthmus between the Euxine and Caſpian ſeas. The enormous ridge of Taurus, together with it's branches, runs through the country from Natolia to India.

There are very few rivers in Perſia, but the moſt remarkable are the Kur, anciently Cyrus; and Aras, anciently Araxes. The Indus runs on the eaſt, as the Euphrates and Tigris do on the weſt of Perſia. The ſcarcity of water in this country has given riſe to many ingenious methods of conveying it to the cities, corn fields, and gardens. Wells of a prodigious depth and breadth are in many places dug, out of which, with the aſſiſtance of oxen, they draw up water in leather buckets, which are emptied into large ciſterns or reſervoirs, and conveyed off by aqueducts and canals; ſome of theſe are carried under ground to the diſtance of twenty or thirty leagues.

386. *Manufactures, Commerce, Roads.*] The principal commodities of Perſia are ſilks, mohair, camblets, carpets, leather, embroidery, and gold and ſilver laces, and threads.

Their foreign trade is carried by European ſhips, having few of their own; and their commerce is now almoſt ruined by the perpetual wars they have been engaged in, which have deſolated the face of the country, and uncivilized the diſpoſitions of the inhabitants. Formerly great numbers of travellers, intending to journey with their merchandizes and commodities from one city or province to another, aſſembled ſocially together, and formed themſelves into caravans, frequently conſiſting of four or five hundred perſons, with a ſtill greater number of camels and other beaſts of burden; at ſtated diſtances, they found caravanſeras or inns, provided either at the public expence, or by the benevolence of individuals, for their reception, free from the expence of lodging; or they pitched their tents, which they always brought with them on theſe expeditions, in ſome verdant ſpot, where they might find water and paſture for their beaſts, and purchaſe proviſions for themſelves. The ſame public attention, or private philanthropy, which provided places of reſt and fountains

of water, had alſo levelled the mountain, or raiſed the valley, and ſmoothed the road to ſafety and convenience. But ſince the civil diſputes and inteſtine commotions have ſuſpended the operation of the laws, and the execution of juſtice; ſince the horrors of war have ravaged the country, theſe advantages have conſiderable fallen off: the highways are neglected and infeſted with banditti, who ſeize on the caravans, and plunder them as lawful prize; the caravanſeras are deſerted, or become receptacles for robbers; and the fountains are dried up, or their ſources choaked with the mouldering ruins.

387. *Curioſities.*] The baths near Gombroon are highly eſteemed for their ſalutary effects; but the principal natural curioſity in this kingdom is a combuſtible ground, about ten miles diſtant from Baku, where the followers of Zoroaſter perform their devotions; it is impregnated with the moſt amazing inflammatory qualities, and round it are ſeveral ſmall old temples: in one of theſe, the votaries ſhew a large hollow cane ſtuck in the ground, out of which iſſues a flame reſembling that of a lamp filled with very pure ſpirits, and this they hold is the ſacred flame of univerſal fire.

The moſt magnificent remains of antiquity in Perſia, are the ruins of Perſepolis, the ancient metropolis of the kingdom, conſiſting of ſuperb columns, ſpacious ſtair-caſes, grand portals, and beautiful pilaſters, adorned with figures in baſſo-relievo. About a league diſtance from theſe ruins, is a famous mountain, ſituated between two fine plains. It is an entire rock, and having been levelled by art, it's ſides are quite perpendicular: there are various figures upon it repreſented in baſs-relief, and ſeveral tombs cut out of the rock, with two ſmall edifices, and ſeveral inſcriptions. Theſe are ſuppoſed to have been the burial places of the ancient kings of Perſia, but the zeal of the Mahometans, who think it meritorious to deſtroy all kinds of images, and the injuries of time have greatly defaced them.

A modern edifice of an extraordinary kind is to be ſeen at Iſpahan. This is a pillar ſixty feet high, erected by Shaw Abbas, after the ſuppreſſion of a rebellion, and conſiſts of the ſculls of beaſts. He had made a vow to build ſuch a column of the ſculls of the rebels, but, upon their ſubmiſſion, he ſubſtituted thoſe of brutes, obliging each of them to furniſh one.

388. *Religion.*] The profeſſion at preſent eſtabliſhed in Perſia, is that of Mahomet; but they differ from the Turks by following the ſect of Ali, whom they conſider as the genuine ſucceſſor of Mahomet; while the Turks aſſert that Omar and Abu Bekr are the true ſucceſſors of their prophet, and therefore charge the Perſians with hereſy.

But the ancient religion of Perſia is the worſhip of the Magi, which is ſtill profeſſed in this empire, and the Indies. The profeſſors of it ſeem to have a peculiar veneration for fire, and the inflammable ſoil near the city of Baku, already deſcribed, is the principal ſcene of their devotion.

389. *Language, Learning.*] The language of Perſia varies in the different provinces; the Perſic is only ſpoken in it's purity in the ſouthern parts of the kingdom, in the city of Iſpahan, on the borders of

of Arabia, and on the coaſts which ſkirt the Gulf of Perſia; in the parts which border on the Caſpian ſea, the Turkiſh language prevails, and the provinces of Ghilan and Mazanderan uſe a mixture of both; but in all parts of the kingdom, public writings, records, and works of learning are in Arabic; many words of which are alſo uſed familarly in the converſation of the polite, who ſtill affect a ſublimity of expreſſion.

The poetical writings of the Perſians are in high eſteem all over the Eaſt; but their learning is at preſent at a very low ebb, and education ſo totally neglected, that perſons in the higher ranks are ſcarcely taught to read or write. Scribes, however, are numerous, and very expert; they carry the lines like thoſe who write in Hebrew, from the right hand to the left. (See art. 135.)

390. *Hiſtory.*] It appears from the book of Geneſis, that Chederlaomer, king of Elam, or Perſia, was a powerful prince in the time of Abraham. About the time of the captivity of Iſrael, this country was conquered by Nebuchadnezzar of Babylon. After this, it was a province of Media, till Cyrus, under whom the Jews returned from their captivity, gained the aſcendency over the Medes, and eſtabliſhed a great empire, which continued till it was overthrown by Alexander the Great. In 250, before the Chriſtian era, the Perſians revolted from the ſucceſſors of Alexander, and founded a new empire, under the name of the Parthian. The Parthians, or Perſians, had frequent wars with the Romans, but neither of them gained any permanent advantage over the other; and, in 651, an end was put to this empire by the Saracens. After this period, the country underwent a variety of dreadful revolutions, and was conquered ſucceſſively by Jenghis Khan, in 1218, and by Tamerlane, in 1392. In the beginning of the fifteenth century, the family of Sophi aſcended the throne, ſince which time, the country has been harraſſed by civil wars. In the beginning of the preſent century, Nadir Shaw put the ſovereign to death, aſcended the throne, ravaged Hindooſtan, dethroned the Mogul, and behaved with ſuch cruelty, that, in the year 1747, his own relations and principal officers aſſaſſinated him in his tent. After his death, a number of competitors laid claim to the crown, which occaſioned a horrid ſcene of bloodſhed till 1763, when Kherim Khan, the preſent king, was placed on the throne; but the kingdom is ſtill in a weak and languiſhing condition.

SECTION

SECTION XLVI.

Arabia.

Arabia extends from the thirty-fifth to the ſixtieth deg. eaſt longitude, and from twelve deg. thirty min. to thirty deg. north latitude. It is bounded on the north by Aſiatic Turkey, on the ſouth by the Indian Ocean, on the eaſt by the Euphrates and the Gulfs of Baſſora and Ormus, and on the weſt by the Red Sea.

391. *Diviſions.*] It is divided into three parts, Arabia Petræa, or the Stony; Arabia Deſerta, or the Deſert; and Arabia Felix, or the Happy. (See art. 136.)

Diviſions.	*Chief Towns.*
PETRÆA.	Suez.
DESERTA.	Mecca, Siden, Medina, Dhafar.
FELIX.	Mocha, Sibit, Hadramut, Caſſeen, Segur, Muſcat, Jamama, Elcalf.

392. *Climate, Soil and Vegetable Productions.*] The climate is various. The ſouthern parts are intenſely hot. The winds, which paſs over tracts of ſand, are penetrating and ſuffocating, and the ſands themſelves become formidable, being ſometimes raiſed in ſuch clouds as to bury whole caravans. In the ſandy deſert it ſcarcely rains throughout the year, but the few vegetables, which ſuch a ſpot is capable of producing, depend for moiſture on the copious dews which deſcend every night after ſun ſet; other parts of Arabia are refreſhed with gentle rains.

Arabia the Stony is the wilderneſs in which the children of Iſrael ſojourned forty years, and it's different rocks and ſpots, and the mountains of Horeb and Sinai may be accounted curioſities, as having been the ſcenes of their hiſtory.

Arabia the Deſert is ſomewhat leſs rocky, conſiſting principally of fruitleſs tracts of burning ſands; it has, however, ſome ſpots of land covered with verdure at certain ſeaſons of the year, and feeding numerous flocks and herds: but theſe are principally near the Euphrates, the only river of any conſequence which waters this extenſive country. There are a few others, ſuch as the Nageiran, the Pran, and the Chaty; but theſe are ſo ſmall as to be at all times inconſiderable, and in the ſummer ſeaſon they are generally dried up. The Eaſtern manner of travelling, in caravans eſpecially, obtains in croſſing theſe deſerts; a frugal fare ſerves the camel and his rider, but water ſeems, above all, a neceſſary ſupply. They ſeldom encumber themſelves with tents, the

the conſtant ſerenity of the ſky rendering ſuch a precaution unneceſſary. At nights the camels are diſpoſed in a circle, where they lie with their heads outwards; within them their furniture and lading are arranged in exact order; and the centre is occupied by the travellers, who, laying carpets on the ſand, take others to cover them, and make a pillow of ſuch wearing apparel as they carry with them, to change or vary their dreſſes. Should invaders approach, the faithful camels are inſtantly alarmed, and, by their riſing and trampling, awake the tired travellers, and put them on their guard.

Arabia the Happy is, in many places, very barren; ſome vallies, however, between the mountains, and a few of the plains, which are ſo ſituated as to be well ſupplied with water, are pleaſant and fruitful, producing corn, pulſe, flowers, peaches, apricots, dates, grapes, lemons, oranges, &c. in great perfection. This country alſo ſupplies Europe with great variety of drugs, ſuch as myrrh, frankincenſe, balms, manna, aloes, and gum olibanum; and it produces, in great plenty, that berry which is imported into Europe under the name of Turkey coffee.

In Arabia there are mines of gold, ſilver, diamonds, rubies, and ſardonyxes of extraordinay beauty and colour.

The Arabs in general are a wandering people. There is, however, a conſiderable trade carried on from Mocha, by the Engliſh and Dutch companies that are ſettled there. The Portugueſe carry on a trade with Moſcat, and the Turks with Suez.

393. *Curioſities.*] The principal curioſities in this province are the moſques at Mecca and Medina; the former was the birth-place of Mahomet, at the latter is his tomb. To both theſe places great numbers of pilgrims annually reſort, but more particularly to Mecca; every Muſſulman being obliged to make this pilgrimage once in his life, or at leaſt to ſend a deputy. The roof of the moſque at Mecca is covered with gold, and has an hundred gates. That at Medina is ſupported by four hundred pillars, and furniſhed with three hundred ſilver lamps continually kept burning; and under cloths of ſilver and gold reſts the coffin or tomb of the impoſtor. Chriſtians are forbid approaching Mecca or Medina within a limited diſtance, on pain of being burnt alive.

394. *Religion, Language.*] The Arabians in general are Mahometans, but many of the wild tribes of rovers are ſtill Pagans. Their language, which for copious and expreſſive elegance, has been preferred, as has been already obſerved, by Turks, Perſians, and other inhabitants of the eaſt, even to their own, is hardly ſpoken in it's purity in any part of Arabia; Arabeſk, or corrupt Arabic, being the common dialect of the country. The ancient Arabic, which is ſaid to be a dialect of the Hebrew, is taught in their ſchools like Greek and Latin in Europe, and uſed by all the Mahometans in their worſhip; for as the Koran was originally written in that language, they will not ſuffer it to be read in any other; they ſuppoſe it to have been the language of Paradiſe, and think no man can attain a thorough knowledge of it without a miracle, it being compoſed of ſeveral millions of words; it is ſaid that there are in it a thouſand different names for a camel, and five hundred for a lion.

395 *Literati,*

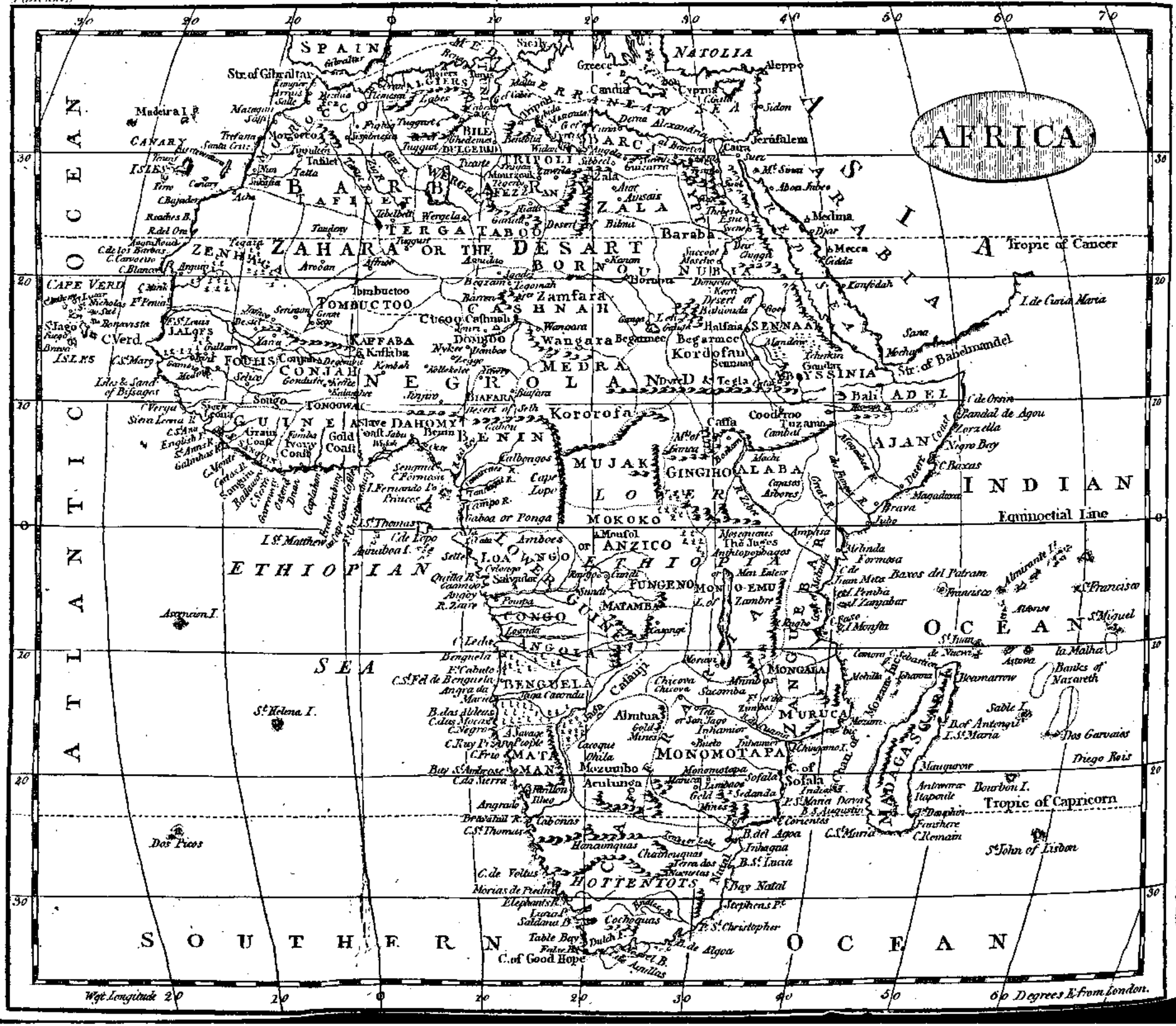
395. *Literati, Learning.*] The names of Avenzoar, Avicenna, Honain, Meſuach, and Thograi have been eminent in phyſic, aſtronomy, and mathematics. To the Arabians we are indebted for that ſimple, and very elegant invention, the expreſſing of all poſſible numbers, by means of the ten digits; and indeed from them moſt of the literary and ſcientific improvements of Europe were derived; but thoſe are now either totally loſt in the land where they originated, or dwindled into blind conjecture, obſcure and myſterious jargon, or ſuperſtitious prognoſtication. The depredations of the robbers, perhaps, more than even the deſerts, render ſolitary and waſte many parts of this land, where ſplendid ruins only remain as monuments of their ancient grandeur.

396. *Hiſtory.*] Arabia was never yet conquered by any foreign power, though ſeveral attempts have been made for that purpoſe. About the year 622, the Arabians began to diſtinguiſh themſelves under the name of Saracens; for Mahomet, at that time, made himſelf the head of a ſect, which in about eleven or twelve years made themſelves maſters of all Arabia, and preſently after extended their conqueſts over a great part of the world. After this, the ſeat of their empire was removed to Bagdat, and fell under the Turks, while Arabia underwent ſome internal revolutions, but retained it's independency.

397. *Iſlands of Aſia, &c.*] The iſlands of Aſia are the largeſt in the world, and they are more numerous here, than in any other quarter. Beſides thoſe, which are ſituated in the Indian and Chineſe ſeas, there are alſo unnumbered other iſlands, both detached and in cluſters in the great Pacific Ocean, and South Sea, ſome very extenſive, others quite minute: the European nations but lately found them out, and have not yet attempted to coloniſe them. The natives are unacquainted with literature and the ſciences. They are generally idolatrous, and deſperate in battle. Without the uſe of metals, they have ſhown great ingenuity in their little works of art, as in their canoes, their weapons, their cloaths and utenſils. Theſe form the moſt modern articles in the cabinets of our curioſi, and their manners are a recent and general topic of converſation with the nations of Europe. (See Sect. X.)

Plate XXVII

Engraved for Walkers Geography &c.



PART VIII.

DESCRIPTION

OF

AFRICA.

AFRICA is on every ſide ſurrounded with water, except where it joins to Aſia by the Iſthmus of Suez. The northern parts of this peninſula, were, in antiquity, celebrated as the ſeats of commerce, ſciences, and arts. In later days, Chriſtian churches were alſo gathered here; but the doctrines of Mahomet, and various forms of idolatry now pervade the moſt of this quarter of the globe; and, degrading to human nature, the trafficing in men forms a principal part of the little commerce they carry on.

The greateſt part of Africa lies between the tropics. The ancients imagined this part was not habitable on account of the heat; later diſcoveries, however, have ſhewn their conjectures to be erroneous. It's coaſts have been diſtinctly deſcribed by the moderns, but it's internal parts are but very little known.

Africa is bounded on the weſt by the Atlantic Ocean; on the north by the Mediterranean, which ſeparates it from Europe; on the eaſt by the Red Sea and Indian Ocean; and on the ſouth by the Southern Ocean. It lies between the parallels of thirty-ſeven degrees north, and thirty-ſix degrees ſouth latitude, and between ſeventeen degrees weſt, and fifty-one degrees eaſt longitude. It is in length, from north to ſouth, about four thouſand ſix hundred miles, and three thouſand five hundred in breadth from eaſt to weſt.

This quarter of the globe may be divided as in the following table:

Countries.	Length.	Breadth	Chief Cities.	Latitude.				Longitude from Greenwich. in Degrees.				in Time.			
				D.	M.	S.		D.	M.	S.		H.	M.	S.	
	miles	miles													
Morocco	500	480	Fez	33	40	0	N.	6	0	0	W.	0	24	0	aft.
Algiers	600	400	Algiers	36	49	0	N.	2	12	0	E.	0	9	0	bef.
Tunis	400	250	Tunis	36	40	0	N.	10	0	0	E.	0	40	0	bef.
Tripoli	400	300	Tripoli	32	50	0	N.	21	30	0	E.	1	26	0	bef.
Barca	700	400	Tolemeta	32	53	0	N.	13	5	0	E.	0	52	0	bef.
Egypt	600	250	Grand Cairo	30	2	0	N.	31	18	0	E.	2	5	0	bef.
Bilidulgerid	2500	250	Dara					8	0	0	W.	0	32	0	aft.
Zaara	2100	660	Tegeſſa	21	40	0	N.	6	0	0	W.	0	24	0	aft.
Negroland	2200	840	Madinga									0	38	0	aft.
Guinea Pro.	18 0	360	Benin	7	40	0	N.	5	4	0	E.	0	20	0	bef.
Nubia	940	600	Nubia	17	0	0	N.	33	0	0	E.	2	12	0	bef.
Abyſſinia	900	800	Gondar	13	10	0	N.	35	0	0	E.	2	20	0	bef.
Abex	540	130	Doncala	15	6	0	N.	39	0	0	E.	2	36	0	bef.
Loango	410	300	Loango	5	0	0	N.	11	0	0	E.	0	44	0	bef.
Congo	550	420	St. Salvador	5	0	0	S.	15	0	0	E.	1	0	0	bef.
Angola	360	250	Loando	8	30	0	S.	14	30	0	E.	0	58	0	bef.
Benguela	430	180	Benguela	11	0	0	S.	14	30	0	E.	0	58	0	bef.
Mataman	450	240	No Towns												
Ancan	900	300	Brava	1	0	0	N.	45	0	0	E.	3	0	0	bef.
Zanguebar	1400	350	Mozambique	15	0	0	S.	40	0	0	E.	2	40	0	bef.
Monomotapa	960	660	Monomotapa									1	18	0	bef.
Monemugi	900	660	Chicova									1	44	0	bef.
Sofala	480	300	Sofala	20	0	0	S.	36	40	0	E.	2	26	0	bef.
Ter de Natal	600	330	No Towns												
Caffraria	780	660	C. Good Hope	33	55	0	S.	18	23	0	E.	1	13	0	bef.

ISLANDS OF AFRICA.

Names.	Chief Towns.	Claimed by, or trading with	Names.	Chief Towns.	Claimed by, or trading with
St. Helena	St. Helena	Engliſh.	The Azores, or Weſtern Iſles, almoſt equi-diſtant from Europe, Africa, and America	Angra	Portugueſe
Aſcenſion	Uncolonized				
St. Matthew					
St. Thomas	St. Thomas	Portugueſe.			
Anaboa	Anaboa	Portugueſe.			
Princes I.					
Fernandopo					
Cape Verd Iſlands	St. Domingo	Portugueſe.	In the Indian Ocean		
Goree	Port St. Michael	French.	Babelmandel	Babelmandel	Open Trade.
			Zocotra	Calanſia	Open Trade.
Canaries	Palma St. Chriſtophers	Spaniards.	Comora Iſlands	Johanna	Open Trade.
Madeiras	St. Croix, Funchal	Portugueſe.	Mauritius	Mauritius	French.
			La Reunion		French.

SECTION

SECTION. XLVIII.

Egypt.

Egypt has the Mediterranean for it's boundary on the north, the iſthmus of Suez and the Red Sea on the eaſt, Nubia on the ſouth, and the Deſerts of Barca with the unknown regions of Africa on the weſt. It lies between thirty and thirty-ſix deg. eaſt longitude, and between twenty and thirty-two deg. north latitude. It is divided into Upper and Lower Egypt.

398. *Climate.*] The almoſt perpendicular rays of the ſun at the ſummer ſolſtice render the climate exceſſively hot in that ſeaſon, and the winters are never ſevere. The ſoutherly winds are ſometimes ſo ſultry here as to oblige the natives to immure themſelves in vaults and caves, and ſometimes they raiſe ſuch clouds of ſand as to obſcure the light of the ſun, and produce epidemical diſorders; and once in ſix or ſeven years the inhabitants are viſited by the plague; but this and other diſeaſes generally ceaſe on the coming in of the eteſian or north wind, and the overflowing of the Nile, which celebrated river alſo enriches the naturally ſandy ſoil of Egypt, by the adventitious earth or mud it depoſits on the plains.

399. *Nile.*] The heavy periodical rains which fall within the Tropics certainly occaſion the annual innundations of the Nile. This reputed father of rivers is ſuppoſed to have it's origin in Ethiopia, at eleven or twelve degrees of north latitude, and purſues a courſe of about fifteen hundred miles for the moſt part in a northern direction, till it divides into two branches about ſix miles below Cairo; one of which ſtretches eaſtward, and the other weſtward, emptying themſelves into the Mediterranean Sea, at the diſtance of a hundred miles from each other; it has alſo ſeveral other ſmaller mouths. The ancients, who were ignorant of the climates in thoſe latitudes, and who had never obſerved any thing ſimilar to the overflowing of the Nile in other rivers, were involved in labyrinths of doubt and perplexity, when they attempted to account for this yearly deluge; but the annual riſe is now well known to be not peculiar to the Nile, but common to every other ſtream that riſes or takes it's courſe within the Tropics, whether in Africa, Aſia, or America.

In the beginning of ſummer the Nile begins to riſe, and during the firſt week it's daily increaſe is about three or four inches; the next fortnight it is conſiderably greater in proportion, and thus continues augmenting with increaſed expedition; and it is not till after four months that the river is reduced to it's uſual channel. The principal cities and towns in Egypt are built on eminences along the banks of the

the Nile, and during this period communicate with each other by boats. In order to aſcertain the daily increaſe of the water, the gradual riſe of it is very exactly meaſured, either by wells ſunk, or pillars erected and divided for that purpoſe, and termed Nilometers or Mikyaſſes. That in the caſtle of Old Cairo is a large ſquare reſervoir, round which runs a handſome gallery, ſupported by twelve marble pillars and arches, with a balluſtrade for the convenience of thoſe who look into the water. In the midſt of the baſon, through which a canal from the Nile paſſes, is an octagonal pillar of white marble, regularly or equally divided; by this the riſing of the water is determined, and the public criers daily proclaim it through the capital and other cities.

When the water has riſen about thirty-four feet, a general feſtival is obſerved, the Baſhaw attends, accompanied by the great officers of ſtate and an innumerable concourſe of people: the dam of the chali or great canal is cut, the water continues to riſe, overflows the low country, and filling the canals and lakes prepared for it's reception, is diſtributed over an extent of land where natural inundation would never reach; with incredible labour the water is alſo raiſed with buckets and machines from baſon to baſon, one above another, in Upper Egypt, till having gained the height, it is occaſionally diſtributed over the higher lands, and in this laborious taſk, and in tilling the land, it is ſaid that no leſs than two hundred thouſand oxen are daily employed.

When the Nile riſes about forty-nine feet, it is a ſign of a plentiful year, but, if it exceed that height, it is productive of great miſchief, ſweeping away the houſes and drowning the cattle: all this deluge of waters pours, in the Upper Egypt, down the vaſt chaſms of lofty rocks and towering cliffs, roaring, daſhing, ſmoking, foaming from ſhelving to ſhelving of interruptive granite, or precipitates at once, and in one expanſive ſheet from the brink of it's rocky channel to the profound, two hundred feet below, with a noiſe more tremendous than that of the loudeſt thunder, raiſing a ſmoke or miſt which at a diſtance has all the appearance of a cloud; yet the natives are ſaid to venture on rafts down this aſtoniſhing fall, and to amuſe themſelves by getting within the expanſive ſheet of water, which being projected with amaſing velocity from the ledge above, form over them as it were one large glaſſy arch.

400. *Produce.*] Egypt, which was formerly the granary of the Roman empire, as it is at preſent of the neighbouring countries, abounds with wheat, rice, barley, and other ſpecies of grain. They have generally three crops in the year; the firſt of lettuces and cucumbers, the ſecond of corn, the third of melons; and the fruits common to hot climates, as oranges, lemons, grapes, figs, olives, dates, plantains, plane trees, ſugar canes, &c. thrive exceedingly here. The meadows yield the richeſt paſture in the world, the graſs being uſually as high as the cattle, vaſt numbers of which are fatted in them.

The animals of Egypt ſeem to partake of the fecundity of the ſoil, for the cows, it is ſaid, always bring two calves at a time, and ſheep yean twice in a year, having two lambs at the firſt and one at the ſecond; a goat is often followed by four kids, which ſhe has brought in

ſix months. Oxen abound here. The Egyptian horſes are held in great eſteem, and a fine breed of aſſes are likewiſe found here; alſo wild aſſes, camels, antelopes, tigers, hyenas, apes, ichneumons, cameleons, the crocodile, the hippopotamus or river horſe, &c. Among the reptiles are the baſiliſk or cockatrice, and the aſp, whoſe bite ſtupefies the patient, and throws him inſenſibly into a deep ſleep, which puts a period to his life, as the unhappy Cleopatra voluntarily experienced.

The birds are numerous, both wild and tame, particularly oſtriches of prodigious ſize, which, if cloſely purſued, will ſtrike back with their legs like a horſe; eagles, hawks, a prodigious number of water fowl, as pelicans, flamingos, ſtorks &c. but thoſe peculiar to the Nile are the ibis, the gooſe with golden feathers, the rice hen and the ſak ſak.

401. *Trade.*] Before the navigation to India was diſcovered by the Europeans, this country was the univerſal mart for the produce and manufactures of the eaſt; but that branch of trade is now greatly declined; moſt of the European powers however have conſuls at Egypt. Several Engliſh veſſels arrive annually at Alexandria, ſome of which are laden on account of the owner; but they are principally freighted by the Jewiſh, Armenian, and Mahometan traders.

They export great quantities of unmanufactured as well as prepared flax, cotton and leather of different kinds, alſo a great variety of medicinal roots and drugs for dying. Their imports are Italian ſilks, Engliſh cloth, tin and lead, French trinkets, Aſiatic ſilks, carpets and ſpices, and a variety of articles from Barbary. The traffic by land is chiefly carried on by caravans.

402. *Curioſities.*] It would require volumes to deſcribe the aſtoniſhing remains of ancient temples, palaces, columns, ſtatues, paintings, &c. that are ſo profuſely ſcattered over a great part of this once renowned country. Thoſe ſurpriſing monuments of antiquity, the pyramids of Egypt, which baffle the reſearches of the deepeſt antiquary to fix with preciſion their origin, are ſituated near Cairo, at the foot of thoſe mountains which ſeparate Egypt from Lybia. One of the largeſt of theſe is five hundred feet high, and it's baſe above ſix hundred feet ſquare. The external part is compoſed of great ſquare ſtones cut from the rock, which lies along the ancient courſe of the Nile, whoſe original bed is ſtill viſible; it is hollow within, and the apartments are lined with highly poliſhed granite. It is aſcended by circular ſteps on the outſide, and the entrance into it is at the height of about forty-eight feet, where travellers diſcharge piſtols to diſlodge the bats which frequent theſe places in great numbers. On the top of this pyramid, the adventurers who have aſcended it have carved their names. At ſome diſtance from this is the celebrated Sphinx, of prodigious dimenſions, and cut out of the ſolid rock. The Mahometans have battered and diſfigured this image; it is hollow within, and from hence it has been ſuppoſed the prieſts bawled out their oracular anſwers.

One of the pyramids, about one hundred and fifty feet high, is built with bricks of uncommon dimenſions, ſaid to have been formed of the mud of the Nile, mixed with chopped ſtraw, and hardened by the ſun. From the nature of the materials, it is conjectured that the enſlaved Iſraelites were the conſtructors of this ſtupendous work; their

own hiſtorian Joſephus informing us, that when the memory of Joſeph's ſervices was extinguiſhed, and the kingdom paſſed to another family, the Jews were treated with great rigour, and compelled to cut canals for the Nile, build walls, and erect pyramids. Near this are the famous catacombs of Egypt: in theſe repoſitories of the dead, embalmed bodies, or mummies, ſwathes or bandages, and ſome entire coffins of ſycamore, or Pharoah's fig-tree, are ſtill to be ſeen, which have certainly continued in theſe ſubterraneous chambers upwards of three thouſand years.

The famous labyrinth near the banks of the Nile, containing twelve palaces and one thouſand houſes, all of marble, and moſtly underground, with but one entrance to it, and full of intricate turnings and windings; the very capacious lake Mœris, dug in order to prevent the irregularities of the Nile; the vaſt and numerous grottos in a mountain near Oſyut, cut out of the rock, one of which is large enough to contain ſix hundred horſe: at Alexandria, Pompey's pillar, and the obeliſk of Cleopatra, with innumerable other antiquities, are all of them reckoned among the curioſities of this country.

403. *Language, Learning, Profeſſion.*] The Coptic, which was the original language of Egypt, was ſucceeded by the Greek, when the kingdom was conquered by Alexander. The Greek continued to be ſpoken till the Arabs took poſſeſſion of Egypt, and ever ſince that period, the vulgar Arabic has been the common language; the Coptic and modern Greek however ſtill continue in uſe.

Learning is at a very low ebb in this ancient ſeminary of the ſciences; the native Mahometans and Arabs are as ignorant as can well be conceived; and the little learning of the country, which ſeems to be confined to reading, writing, and book-keeping, is entirely in the hands of the Coptics, who on this account meet with conſiderable encouragement from the rich and great.

The Coptics profeſs Chriſtianity; the adherents of the Greek church are likewiſe pretty numerous, as are alſo the Jews.

404. *Hiſtory.*] Egypt is one of the oldeſt kingdoms in the world. In remote antiquity it underwent many revolutions from it's neighbours the Canaanites and Ethiopians, and even from wandering tribes of Scythians; it was ſucceſſively ſubjected to the Aſſyrians, Babylonians, Perſians, Macedonians, Romans, and Saracens, and Mamalukes, and at this day it acknowledges the government of the Porte.

SECTION

SECTION XLIX.

Barbary.

Barbary, in a general view, extends from the Atlantic Ocean to Egypt near two thouſand miles in length, and from the Mediterranean ſea to the Lybian deſerts ſeven hundred and fifty miles, and comprehends in ſucceſſion from weſt to eaſt the countries of Morocco and Fez, which form one diſtinct empire, and the ſtates of Algiers, Tunis, Tripoli, and Barca, which form one great political confederacy under the Porte or Turkiſh government, however independent they may be on each other in their internal policy and government.

405. *Diviſions.*] In Morocco empire are the towns of Morocco, Fez, Maquinez, Taradant, Tangier, Sallee, Ceuta, Tetuan, Arzilla, and Santa Cruz. In Algiers Tremeſen, Oran, Algiers, Bugia, Conſtantina: in Tunis, Carthage, Tunis, Peſcara; in Tripoli, Tripoli: in Barca Deſert, Docra.

406. *Rivers, Mountains, Climate.*] The coaſts of Barbary are well watered by ſeveral copious ſtreams, which have their ſource among the mountains of Atlas, on the tops of which ſnow is conſtantly ſeen during the whole year. The climate is generally temperate, but, during the ſummer, the heats are ſometimes exceſſive.

407. *Soil, Plants, Animals.*] The ſoil is extremely fertile in corn and paſture, and produces dates, figs, grapes, olives, almonds, apples, pears, cherries, plumbs, citrons, lemons, oranges, pomegranates, with plenty of roots and herbs in their kitchen gardens; and excellent hemp and flax grow on the plains. Algiers produces ſaltpetre, and great quantities of ſalt, and lead and iron are found in ſeveral parts of Barbary. Fiſh and fowl abound here. Their other animals are a fine breed of horſes, camels, dromedaries, aſſes, mules, cows, ſheep, goats, hares, rabbits, lions, tigers, leopards, monſtrous ſerpents, and all kinds of reptiles, bears, porcupines, foxes, apes, ferrets, weaſels, moles, cameleons, &c.

408. *Curioſities.*] Salt mountains and ſaline lakes, hot ſprings and ſulphureous caverns, are the natural curioſities of this country. Ruins of ancient cities, temples, altars, amphitheatres, aqueducts, reſervoirs, baths, triumphal arches, mauſolea, columns and ſtatues, are among the antiquities of this country, and many of the modern buildings are ſpacious and ſplendid, covered with lofty roofs ſupported by pillars of marble. Spacious courts, adorned with large galleries, fountains, marble baſons and fiſh ponds, often diſtinguiſh the houſes of the affluent, as well as the colleges, moſques, baths, and hoſpitals, which

are pleaſantly ſhaded with orange and lemon trees, loaded with fruit throughout the whole year.

409. *Manufactures, Commerce.*] The internal trade of Barbary is carried on by caravans; their exports are manufactured leather, fine mats, handkerchiefs, carpets, elephants teeth, oſtrich feathers, copper, tin, wool, hides, honey, wax, fruits, gums, and drugs. In return for their exports, the Europeans furniſh them with timber, artillery, gunpowder, and various manufactures. Commercial affairs are generally tranſacted by the Jews and Chriſtians who have ſettled among them; and the latter have eſtabliſhd ſilk and linen manufactures here.

410. *Profeſſion, Language.*] The doctrines of Mahomet is the national profeſſion. The language varies greatly; in ſome of the inland countries an ancient African language is ſtill in uſe; in the maritime countries and ſea-port towns a corrupt Arabic is ſpoken; and that medley of languages, which is ſpoken in many of the ports of the Mediterranean, and known to the ſailors by the name of Lingua-Franca, is alſo uſed here.

411. *Literature.*] Learning, as may well be preſumed, is at a very low ebb in Barbary, even ſome of their governors have been incapable of reading and writing. There are, however, ſeveral colleges and ſchools in their cities and towns, in which the doctors of the laws, and other literati, are maintained; ſome at the public expence, and others by exerciſing the mendicant profeſſion; the veneration in which they are univerſally held never failing to enſure their ſucceſs. The Koran is eſteemed the perfection of all human learning, and when once the ſtudent has gone through it, he is ſuperbly dreſſed, placed on horſeback, and conducted in triumph through the town by his ſchoolfellows.

412. *Hiſtory.*] The city of Tunis in Barbary ſtands not far from the place where ſtood ancient Carthage, a city built by Queen Dido, who brought a colony of Tyrians hither in 883 before the Chriſtian æra. The Carthaginian republic ſoon grew formidable to all it's neighbours, and extended it's commerce and empire, till claſhing with the Romans, it was entirely deſtroyed by them at the concluſion of the third Punic war in 148 before the Chriſtian æra. It continued a part of the Roman empire till 439, when it was taken by the Greek emperors. In 644, this ſtate, together with the reſt of Barbary, was ſubdued by the Saracens, whoſe conqueſts extended to moſt parts of Spain; but being driven from thence, and nearly falling victims to the Spaniards, they in the ſixteenth century implored the protection of the Turkiſh admiral, Barbaroſſa, who freed them from the Spaniſh yoke, but impoſed his own in it's place. The power of the Turks in theſe ſtates, however, is very much decreaſed, and in ſome parts it is even ſcarcely nominal.

SECTION

SECTION L.

Weſtern Parts of Africa.

413. *Zaara.*] Zaara, or the Deſert, and the adjoining countries of Bilidulgerid, on the north, and Tombut on the ſouth, are much involved in geographical uncertainty. They are altogether bounded on the north by Barbary, on the weſt by the Atlantic, on the ſouth by Negroland, and on the eaſt by Nubia and Egypt; comprehending an immenſe extent of burning ſands, whoſe ſterility no labour can overcome, unleſs near the few rivers and ſprings which viſit this parched land. The ſoil of Zaara and Bilidulgerid, even where capable of cultivation, barely produces corn, rice, and millet, ſufficient for the exigencies of it's ſcanty inhabitants. Dates, indeed, are, in general, plentiful, with ſome other fruits, on which the natives principally ſubſiſt. Deſcendants of various tribes of Arabs and Berebers, or the original natives of Barbary, are the inhabitants of this dreary country; and the hiſtory both of themſelves and their land is pretty much the ſame with that of Arabia and it's roving tribes. Lions, tigers, wolves, and other ſavage animals add to the horrors of this inhoſpitable land, through which, however, caravans annually paſs between Barbary and Nigritia. The roving natives of this deſert land, for want of other marks, are under the neceſſity of obſerving the ſtars in their excurſion, and can talk with tolerable preciſion about their number, ſituation, and diviſions; and in Bilidulgerid there are ſeminaries for the inſtruction of youth, who, according to their abilities, are raiſed to the rank of prieſts or judges.

Tombut is well watered by canals cut from the Niger, as well as by a number of ſprings, which fertilize the ſoil, and render it productive of all kinds of grain, and almoſt every neceſſary of life. The king of this country poſſeſſes prodigious quantities of gold, and his whole court is reported to eat out of veſſels of that metal.

414. *Negroland.*] The extenſive country of Negroland, or Nigritia, includes the entire ſpace between Zaara and Guinea, comprehending many and various nations. The parts that we are acquainted with are thoſe that lie on the banks of the navigable rivers which have been viſited by Europeans.

The principal rivers in Nigritia are the Scherbro, Sierra-Leona, Seſtos, Gambia, and Niger, or Senegal; they abound in fiſh, but are greatly infeſted with alligators. The banks are adorned with beautiful trees, ſwarming with birds of the moſt lively plumage, and luxuriant foreſts teeming with life in various forms; elephants, tigers, lions, apes, and ſerpents of aſtoniſhing dimenſions; deer, hogs, hares, &c. The gum foreſts are immenſe on the ſides of the Senegal; the beautiful iſlands of Sierra Leona are covered with palms, from which the natives make great quantities of wine; rice and millet grow in

ſuch quantities on the ſides of the rivers, as amply to ſupply the natives with food; lemons, oranges, bananas, and citrons arrive at vaſt perfection; and, in the interior parts of the country, ananas, Indian figs, water-melons, white prunes, caſſava, and different ſorts of pulſe, are produced in the greateſt abundance. The doctrines of Mahomet generally prevail in this country; and in ſome parts there are ſeminaries where the Arabic is taught. The Marabuts are a diſtinct order of men, whoſe dignity deſcends to all their male offspring, forming a numerous eccleſiaſtical body, and having vaſt revenues appropriated for their maintenance. They ſpend much of their time in the tuition of their children, whom they carefully inſtruct in the principles of the Levitical law; which, next to the doctrines of the Koran, is treated with the greateſt reſpect. The great volume of the Marabut inſtitutions is written in a language entirely different from that of the vulgar, and is ſuppoſed to be a corrupt Hebrew or Arabic. Some of the Marabuts travel from province to province inſtructing the natives; all places are open to them, and during the rage of the moſt ſanguinary conteſt, they paſs unmoleſted through the fields of war.

There are nations in Negroland, of whom the Europeans do not even know the names; among thoſe whom they are acquainted with, and who uſe different tongues or dialects, are the Mandingoes, the Jalloiffs, Pholeys, and Portugueſe; which laſt-mentioned people, after conquering this country, have ſo intermingled with the original natives, and lived ſo much after their manner, they have now nearly loſt every trait of the particular European viſage and complexion, though they ſtill retain a ſort of Portugueſe dialect, and ſome rude notions of the Chriſtian profeſſion.

Manufactures and arts are little practiſed here; ſmiths and cutlers are the principal mechanics: the women ſpin and weave a little cotton.

The habitations of the negroes in general are ſmall, low, conical huts, with no other light than what is admitted at the door. The towns are always raiſed in a circular form, with ſpiral ſtreets; hence in a village of inconſiderable extent a perſon is often obliged to walk a great way, when, by ſhort, interſecting ſtreets, a few paces would ſuffice. Some negroes of diſtinction, however, particularly the deſcendants of the Portugueſe, affect the European ſtyle of architecture, and build houſes tolerably well adapted to the climate.

The Europeans have many ſettlements on the rivers of this country; here they procure vaſt quantities of gums, bees' wax, gold, elephants' teeth, ſkins of wild beaſts, &c.; and here it is a melancholy truth, they carry on the iniquitous traffic of dealing in men.

415. *Guinea.*] South of Negroland lies Guinea. This vaſt country, in it's utmoſt extent, comprehends a great number of kingdoms and nations: it lies between nine degrees eighteen minutes north, and ſixteen degrees forty-five minutes ſouth latitude, extending in length about two thouſand five hundred miles along the ſea-coaſt; but it's breadth cannot be accurately determined; it's boundaries on the eaſt being undefined, and blended in uncertainty together with the interior and unknown regions of Africa, which lie round the Mountains of the Moon, in the centre of this quarter of the globe.

Guinea

Guinea is divided into the Upper and the Lower.

In Upper Guinea, on the north, are the Grain Coaſt, the Tooth or Ivory Coaſt, the Gold Coaſt, the Slave Coaſt, and the kingdom of Benin.

South of the line the Lower Guinea comprehends the kingdoms of Loango, Congo, Angola, and Benguela.

Guinea, in it's natural hiſtory, and it's intercourſe with Europeans, pretty much anſwers the deſcription juſt given of Negroland, and both theſe fertile lands, in the midſt of their ſpontaneous profuſion, are, in common with other tropical countries, expoſed to exceſſive heats, to tornadoes, and other tempeſts.

Various forms of idolatry, and the groſſeſt ſuperſtitions are ſaid to prevail throughout this extenſive country; the natives, in ſome parts, worſhipping ſnakes, goats, tigers, and other animals.

416. *Mataman.*] Between the moſt ſouthern extremity of all Guinea and the Cape of Good Hope, lies Mataman, or Matapan, an extenſive, arid waſte, not containing any towns, and having very few inhabitants. If we are to believe the Portugueſe writers, who, about two hundred years ago, pretended to deſcribe this country, here were nations of Amazons and Cannibals perpetually at war with each other, in whoſe ſhambles the limbs of the captives were expoſed to ſale, and who buried their children alive, and recruited their armies with the ſtouteſt of their priſoners. To raiſe reports, however, of this kind, and thereby to deter adventurers from penetrating into unknown countries, for gold, or other treaſures, ſeems ſometimes to have been the policy of people leſs cunning than Europeans.

SECTION LI.

Eaſtern Parts of Africa.

All the reſt of Africa lies ſouth and eaſt of the countries already deſcribed; as the greateſt part of it is but little known to Europeans, geographical preciſion can hardly be expected in laying out it's diviſions; it is ſometimes all included under the general name of Ethiopia, ſometimes it is divided into Caffraria and Ethiopia, and again it is reduced into diviſions more minute.

Beginning at Egypt on the north, already deſcribed, the Upper Ethiopia lies towards the ſouth, and is generally divided into Nubia, Abyſſinia, and Abex. It is bounded on the north by Egypt, on the eaſt by the Red Sea, on the ſouth it joins with the Lower Ethiopia, or Caffraria, and on the weſt with the undiſcovered eaſtern confines of Zaara, Negroland, and Guinea.

417. *Nubia.*] Nubia affords gold, ivory, roots, and drugs, with a variety of medicinal plants; the inhabitants, in general, profeſs Mahometaniſm, but have very few marks of religion among them. In the few villages of this region, they apply themſelves to agriculture;

but the greateſt part of them indulge in perpetual indolence, and like the lions and other ſavages of this inhoſpitable country, wake only to plunder and deſtroy at the keen impulſe of hunger. It is ſaid, however, that there are among them ſome Chriſtians and Jews, as well as Pagans and Mahometans.

418. *Abex.*] Abex, which is only a narrow ſlip of land, extending along the weſtern ſhore of the Red Sea, is ſandy and barren, the air ſultry and unwholeſome, and the heat ſo intenſe, that it produces few neceſſaries of life; lions, tigers, and other beaſts of prey roam the wild waſte unmoleſted, beſides which there are but few animals, except deer and ſheep of a prodigious ſize.

The inhabitants are a mixture of Egyptians, Arabs, and Caffrees. The Turks having ſeized all the bays and ports of Abex from Egypt to the Streights of Babelmandel, the principal of which are Suaquam and Arquico; the Abyſſinians are hereby ſhut out from any communication with the Red Sea, and on the other ſides they are ſurrounded by mountains.

419. *Abyſſinia, &c.*] Ayſſinia, in the inland parts, however, is ſaid to be exceedingly fertile; the Nile, which is ſuppoſed to have it's ſource in this country, periodically overflows, and enriches it's plains; it is plentifully ſtocked with animals, both wild and tame; the oxen are ſo large, that ſome have miſtaken them for elephants with horns, and the camelopardus is much taller than an elephant, but of a very ſlender make; it's locuſts are large, and excellent eating. The Turks annually export great quantities of rice from hence, particularly at the time of the pilgrimages to Mecca, Arabia not affording proviſion ſufficient for their ſuſtenance; they alſo exchange their ſilks, ſtuffs, calicos, linens, and carpets with the Abyſſinians.

The emperor of Abyſſinia, as well as his ſubjects, conſtantly living in tents, his camp always occupies a very large ſpace of ground, and from the regular diſtribution of the ſtreets, the great variety of tents, ſtreamers, and other ornaments, and the great number of illuminations at night, makes a very grand appearance, exhibiting the view of a vaſt, open, and regular city; in the centre, or other conſpicuous part of which ſtands the imperial pavilion, greatly exceeding the reſt both in magnitude and beauty.

The Abyſſinians profeſs Chriſtianity, and are ſo hoſpitable to travellers, that inns would be ſuperfluous; but the emperor allows himſelf a plurality of wives, and he is treated with a ſubmiſſion which is hardly clear of idolatry.

The Galles are a people inhabiting their borders, and ſubſiſting chiefly by the ſword, they are deſperate in battle, but ſtedfaſt in their engagements.

In remote antiquity, the Ethiopians conteſted with the Egyptians, and they ravaged each other's territories. The Perſians under Cyrus, and afterwards the Romans, made conqueſts in this country, but theſe were not laſting. Since thoſe times it has undergone ſome internal revolutions, but continues a kingdom to this day.

South of Abyſſinia lies Monoemugi, an extenſive inland country, abundantly rich in palm wine, oil, honey, and gold; the climate is ſaid to be unfavourable to health, the air ſultry and hot.

SECTION

SECTION LII.

Character of the Africans; European Settlements, &c. on the Continent and in the Iſles.

420. *Character and Diſpoſition of the Africans.*] In addition to what has already been ſaid of this hitherto little known, neglected, or abuſed quarter of the earth a few extracts, from the lateſt accounts that have been publiſhed reſpecting it, may afford ſome ſatisfactory information, reſpecting the country, it's inhabitants, and the colonies which have been there eſtabliſhed. The philanthropic author of the Eſſay on Colonization, perhaps not yet ſufficiently diſguſted, though evidently pretty much ſickened, with the diſtorted and oppreſſive manners of our portion of the globe, after travelling through moſt parts of Europe, and obſerving various modes of civilized ſociety, was deſirous of contemplating human nature in ſimpler ſtates, declares that he has often been grieved and aſtoniſhed, ſince he trod the fertile ſoil of Africa, and ſurveyed her rude, but valuable, natural ſtores, that ſuch a country ſhould have been ſo long overlooked by the induſtrious nations in Europe.

This deſcendant of the Goths, let him excuſe this deſcription, for the Swedes are accounted the French of the North, and the Gothic, or feudal ſyſtem has not had any greater enemies than the French of the preſent day—This citizen of the world thinks, that cultivation and commerce, eſtabliſhed upon right principles, rendering the mind active, would early diſpoſe it for the reception of pure moral inſtruction. It is but the part of candour, however, to obſerve that the ſyſtem of commerce, which he wiſhes to have introduced, is conſiderably different from that, under which the people of Europe are toiling and groaning; their fetters being made of gold, the glare of them makes them forget that they are heavier than thoſe of baſer metal. He wiſhes his *chers Africains*, too long the wretched victims of ſuch a ſyſtem, to be reſcued from it's horrors, it's moſt palpable enormities, and to be kept, by a more ſimple, and better order of things, from the vexations which accompany it, under it's more ſpecious appearances.

"The underſtandings of the Africans, ſays he, have not been nearly ſo much cultivated as thoſe of the Europeans; but their paſſions, both defenſive and ſocial, are much ſtronger. No people are more ſenſible of diſrepect, contempt, or injury, or more prompt and violent in reſenting them. They are alſo apt to retain a ſenſe of injury, till they obtain ſatisfaction, or gratify revenge. In this they reſemble other imperfectly civilized tribes, and even the more refined Europeans, in whom that benevolent religion, which teaches forgiveneſs of enemies, has-

has not yet produced it's full effect. For was not ſatisfaction to offended honour; that is, was not a certain mode of revenge a diſtinguiſhing part of the ſyſtem of chivalry? And do not our modern duelliſts, the polite ſucceſſors of the ancient knights, ſtill cheriſh a principle which they will not allow to be called revenge; but for which ſober people cannot find a better name? Revenge cauſes wars in Africa: and are there no ſymptoms of it's producing wars in Europe? But African wars are never protracted, with cold-blooded perſeverance, to the length of the ſiege of Troy; nor is peace ever negociated with a view to future wars. The Africans have no particular tortures in reſerve for their priſoners, like the North American Indians; nor do they ever devour them, like the natives of New Zealand.

"But if they be charged with hatred to their enemies, kindneſs to their friends ought, in candour, to be ſtated to their credit; and their hoſpitality to unprotected ſtrangers is liberal, diſintereſted, and free from oſtentation; as I myſelf, and many others have experienced. Their kindneſs and reſpectful attention to white perſons, with whoſe characters they are ſatisfied, ariſes to a degree of partiality which, all things conſidered, is perfectly ſurpriſing. Perſons of this deſcription may, and often do, reſide among them in perfect ſecurity, receiving the beſt poſſible proofs of their good will, namely the moſt preſſing ſolicitations to ſettle among them. This partiality to well diſpoſed Europeans extends alſo to their dreſs, manners, and commodities; in ſhort, to every thing that is European—a diſpoſition which might long ago have been improved to the beſt purpoſes.

"On thoſe parts of the coaſt and country, where the ſlave-trade prevails, the inhabitants are ſhy and reſerved, as well they may; and on all occaſions go armed, leſt they ſhould be way-laid, and carried off.

"In maternal, filial, and fraternal affection, I ſcruple not to pronounce them ſuperior to any Europeans I ever was among; but, as they practice polygamy, their paternal and conjugal affections may be ſuppoſed leſs ardent.

"As many of them have not ſufficient employment, either for their heads or their hands, they are apt to relieve liſtleſſneſs by intoxication, when they can procure the means. So very ſucceſsful, indeed, have the European ſlave-dealers been, in exciting in them a thirſt for ſpirits, that it is now become one of the principal pillars of their trade; for the chiefs, intoxicated by the liquor with which they are purpoſely bribed by the whites, often make bargains, and give orders fatal to their ſubjects, and which, when ſober, they would gladly retract. A deſire for ſpirituous liquors, however, is the failing of all uncivilized people. In particular, it has greatly thinned ſome American tribes, and almoſt annihilated others.

Their notions and practices reſpecting property, are not more inaccurate or irregular than thoſe of other men in the ſame ſtage of ſociety; as is evident from the general conduct of ſuch of them as are unconnected with this deſtructive commerce. But thoſe who are, may be expected to be tainted with it's concomitant vices. As the

whites

whites practice every fraud upon them, in the quantity and quality of the goods delivered, and in trepanning their perſons, the blacks cannot carry on this trade, on equal terms, without reſorting to ſimilar practices. As to the injuſtice, cruelty, and rapine which, at the inſtigation of the whites, they practice on one another, they are not more diſgraceful than the well known trades of crimps, and kidnappers, and preſs-gangs, carried on, without foreign inſtigation, in ſeveral European countries, and even protected, or connived at, by their governments. At the worſt, theſe practices are not ſo diſgraceful to uncivilized men as to their civilized, European inſtigators. Menzel gives a horrid detail of the operations of the Zeelverkoopers, (ſoul-mongers) of Holland, whoſe infamous trade it is to trepan men for their Eaſt Indian ſettlements. By ſuch means, the author affirms, that the population of the peſtiferous city of Batavia is kept from total exſtinction.

"Of the infamous arts of the Europeans, and the conſequent intoxication and violence of one of the African chiefs, I have had ocular proof. In order to promote the ſlave-trade, the French governors at Goree ſend yearly preſents to the black kings, who return a gift of ſlaves. In 1787, I attended an embaſſy of this kind to the King of Barbeſin at Joal, on the coaſt between Goree and Gambia. That chief having been unwilling to pillage, was kept conſtantly intoxicated, by the French and mulattoes, till they prevailed on him to iſſue the dreadful mandate. When ſober, he expreſſed extreme reluctance to harraſs his people. He complained that the traders of Goree, after making him trifling preſents, came upon him with long accounts, and endleſs pretenſions; that the governor liſtened too readily to their tales, thought too little of the ſufferings of the negroes, and muſt have been impoſed upon, when he allowed his name to be uſed on ſuch occaſions—An allegation which moſt probably was true; for the Chevalier de Boufflers, then governor, I really believe, was ignorant of theſe knaviſh proceedings; but, like many other great men, was the dupe of his courtiers. I heard the king more than once hold this language, had it interpreted on the ſpot, and inſerted it in my journal: and yet he ſoon ordered the pillage to be executed.

"On this occaſion, it happened that only one captive was taken. This was a handſome young negreſs, who notwithſtanding her tears, was forthwith carried on board a ſhip then lying off Joal. As ſhe belonged, however, to one of thoſe families who, by the laws of the country, are exempted from ſlavery, this action ſhocked the people ſo much, that a commotion enſued The king having, by this time, come to his ſenſes, and ſeeing the danger, entreated the purchaſer to return the girl. The Frenchman, though ſurrounded by a great multitude of negroes, and though our party, including Dr. Sparrman, Captain Arrhenius, and myſelf, conſiſted but of five white men, was ſo madly obſtinate as to refuſe his requeſt. I ſay madly, for in all the conjunctures of my life, I never was ſo alarmed for the ſafety of it. After much entreaty, however, he reſtored the young woman to her diſconſolate relations, the king promiſing him two ſlaves in exchange, whom he expected to ſeize on a future expedition.

"The oppoſers of the colonization of Africa would have it believed, that the natives are incurably ſtupid and indolent: but I have in my poſſeſſion the means of proving the contrary; for, on a queſtion put to me in a committee of the Britiſh Houſe of Commons, I offered to produce ſpecimens of their manufactures in iron, gold, fillagree work, leather, cotton, matting, and baſket-work, ſome of which equal any articles of the kind fabricated in Europe, and evince that, with proper encouragement, they would make excellent workmen. All men are idle, till incited to induſtry by their natural or artificial wants. Their ſoil eaſily ſupplies their natural neceſſities, and the whites have never tried to excite in them any innocent artificial wants; nor indeed any other wants than thoſe of brandy, baubles, trade-guns, powder and ball, to intoxicate or amuſe their chiefs, and to afford them the means of laying waſte their country.

"Even the leaſt improved tribes make their own fiſhing tackle, canoes, and implements of agriculture. I forgot to mention ſalt and ſoap, and dying, among the manufactures of thoſe I viſited, and who are by no means exempted from the evils of the ſlave-trade. If, even while that traffic diſturbs their peace, and endangers their perſons, they have made ſuch a progreſs, what may we not expect if that grievous obſtacle were removed, and their ingenuity directed into a proper channel?

"The ſlave-trade diſturbs their agriculture ſtill more than their manufactures; for men will not be fond of planting, who have not a moral certainty of reaping. Yet, even without enjoying that certainty, they raiſe grain, fruits, and roots, not only ſufficient for their own conſumption, but even to ſupply the demands of the European ſhipping, often to a conſiderable extent. In ſome iſlands, and parts of the coaſt, where there is no ſlave-trade, they have made great progreſs in agriculture. At the iſland of Fernando Po, in particular, they have ſuch quantities of proviſions, as to ſpare a ſufficiency for all the ſhipping at Calabar, Del Rey, and Camerones. In ſome places, they bring their produce to the coaſt on their heads, and return home, loaded with European goods. Others go in armed bodies even a month's journey inland, with articles for trade. In ſome places, they wood and water the ſhips, and hire themſelves to the Europeans to work for low wages, both in boats and on ſhore. In ſhort, their induſtry is in general proportioned to their comparative civilization, to their own wants, to the demand for their labour, to their deſire for European goods, and above all, to their total or partial exemption from the ſlave-trade.

"Refined nations form ſyſtems, and riſe to generals: unpoliſhed tribes dwell on detail, and triſle in particulars. The Africans are unacquainted with the dexterity and diſpatch ariſing from the diviſion of labour, and with the numerous advantages of combined exertions ſyſtematically conducted. Except in works, which, without united efforts, cannot be performed at all, they do every thing in a ſolitary, deſultory manner. Each individual or family, like the peaſants in ſome parts of Europe, ſpins, weaves, ſews, hunts, fiſhes, and makes baſkets, fiſhing-tackle, and implements of agriculture; ſo that, conſidering

fidering the number of trades they exercife, their imperfect tools, and their ſtill more imperfect knowledge of machinery, the neatneſs of ſome of their works is really ſupriſing.

" Of their labour in concert, I ſhall give one example, of which I I have been a ſpectator. The trees on the coaſt I viſited, being generally bent in their growth by the ſea-breeze, and wanting ſolidity, are unfit for canoes. A tree of the proper dimenſions is therefore choſen, perhaps fourteen or fifteen miles up the country, which being cut into the requiſite length, but not hollowed, leſt it ſhould be rent by accident, or by the heat of the ſun, the people of the neareſt village draw it to the next, and thus ſucceſſively from village to village, till it reach the coaſt, where it is formed into a canoe. For this ſevere labour, the villagers look for no other reward than a feaſt and merry-making, which they enjoy in the true ſtyle of rural ſimplicity.

" The ſame happy mixture of united labour and feſtivity takes place at building their houſes; alſo in cultivating, planting, or ſowing their fields, belonging to the ſame village, and in reaping the crop, which is conſidered as the common property of the inhabitants. Such a practice in Europe would generate endleſs diſputes; but among this ſimple people, is the beſt bond of good neighbourhood. Such, indeed, is the amiable ſimplicity of manners which reigns in the villages remote from the ſlave-trade, that European viſitors are ready to imagine themſelves carried into a new world, governed by the pureſt maxims of patriarchial innocence.

" But though few of them unite their ſtrength, except on theſe, and a few ſimilar occaſions, and moſt of them turn their hands to different occupations, we are not thence to conclude unfavourably of their intellects, any more than of the intellects of thoſe European peaſants, (in Sweden, Norway, Scotland, &c.) whoſe practices are ſimilar. On the contrary, Lord Kaimes has obſerved, I think with much truth, that ſuch peaſants are generally more intelligent than artificers, to whom the diviſion of labour, in manufacturing countries, has aſſigned one, ſimple operation. A peaſant, who makes and repairs his ploughs, harrows, and harneſs, his houſehold furniture, and even his cloaths, has an ampler ſcope for his underſtanding, and really becomes a more intelligent being than he who ſpends his whole life in forging horſe-ſhoes, making nails, or burniſhing buttons. Such a being, confined for life to a few ſimple motions, may be ſaid, in ſome degree, to loſe the uſe of all his powers, but that of the muſcles which perform thoſe motions. His intellect lies dormant, for it's uſe is ſuperſeded by a mere animal habit. He becomes, in ſhort, a kind of live machine, in the hands of ſome monied man, to contribute to the pride and luxury of drones, who poſſeſs no other talent than that of turning to their own account, the activity of their poor brethren of mankind.

421. *European Colonies in Africa.*] " The Dutch Eaſt-India ſhips began to frequent the Cape, about the year 1600; but it was not till 1650, that Van Riebeck, a ſurgeon, firſt diſcovered the advantages that would reſult from forming a colony there. On returning to Holland, he preſented a memorial on the ſubject to the directors of the Dutch Eaſt-India company, who approved of his propoſal, and ordered four ſhips

ſhips to be equipped for the Cape, with ſome artificers, a few coloniſts, and the neceſſary tools and ſtores. Van Riebeck was appointed admiral of this fleet, and governor of the new colony; truſts which he fulfilled with ſuch fidelity and ſucceſs, that he well deſerves to be recorded, as founder of that important eſtabliſhment.

"In executing this deſign, the directors acted with a degree of wiſdom and diſintereſtedneſs too ſeldom found in the repreſentatives of joint ſtock companies, and for which, in many other inſtances, the conduct of their predeceſſors and ſucceſſors have not been very remarkable. They authorized Van Riebeck to purchaſe territory from the natives, which he did, with goods to the amount of 50,000 guilders. —In the choice of coloniſts, their diſcernment and prudence were conſpicuous. By advantageous promiſes, faithfully performed, the company induced laborious peaſants, and honeſt artificers to emigrate to the Cape. They defrayed the expences of the voyage; and provided the coloniſts with ſubſiſtence, tools, implements of agriculture, and cattle. To each they gave a portion of land, on condition that, in three years, he ſhould have cultivated enough to enable him to ſupport himſelf, and to contribute to the defence of the colony. They alſo agreed to bring back to Europe, *gratis*, thoſe to whoſe conſtitutions the climate might be unfavourable, and who had full liberty to diſpoſe of their effects to the beſt advantage. For the reception of the coloniſts, the company erected villages, each containing 30 houſes, a church, an hoſpital, a town-houſe, and a public kitchen-garden. To furniſh the colony with females, girls from the orphan-houſes in Holland, were ſent out, with ſuperintendants to educate them at the Cape; and, on their marriage, the company aſſigned them ſmall doweries.

"This extremity of Africa conſiſts of black and barren mountains of granite, without any volcanic productions. The cultivated ſpots near the town are of ſtiff clay, with a little ſand, and ſmall ſtones; but, towards Falſe Bay, the arable ſoil is almoſt entirely ſandy. The colony of Stellenboſh is ſaid to have the beſt ſoil of any at the Cape, but even that produces no very extraordinary proofs of natural fertility. The Dutch have, ſtrictly ſpeaking, four colonies in this part of Africa, namely, the Cape, properly ſo called, Stellenboſh, Drakenſtein, and Waveren. The farms, in many places, are very much ſcattered. Lions, leopards, tiger-cats, hyenas, jackals, and ſeveral other wild beaſts, infeſt the Cape, now and then, even to this day.

"Yet this country is not without it's advantages.—The air and water, as in moſt other mountainous tracts, are good, in the ſame proportion as the ſoil is bad. Though the ſummer heats are ſometimes exceſſive, the winters are ſo mild, that ice is ſcarcely ever ſeen about the town. But, on the mountains, eſpecially far inland, there are hard froſts, with ſnow and hail-ſtorms. The climate, however, upon the whole, is ſo ſalubrious, that the inhabitants are rarely troubled with any diſorders more ſerious than colds, cauſed by the ſudden changes of air, from the ſtrong winds, to which the Cape is expoſed at all ſeaſons; and ſtrangers ſoon recover from the ſcurvy, and other complaints. The ſupport of ſo many wild beaſts, implies the exiſtence

ence of numerous tribes of milder animals; and, accordingly, an aſtoniſhing variety, from the mighty buffalo and camelopard, to the leaſt of the beautiful genus of antelopes, and many ſmaller quadrupeds, are common in this part of Africa. The elephant, rhinoceros, and hippopotamus, formerly came within a ſhort diſtance of the Cape; but they have been ſo much hunted, and are ſo ſeldom ſeen at preſent, that the government have iſſued an order againſt killing them, within many miles of the town. The neighbouring ſeas and bays abound with excellent fiſh. I know not whether the metallic ores of the interior mountains ought to be mentioned as an advantage, as it does not appear, that the coloniſts can work them with profit, on account of their remote and rugged ſituation. Some tribes of Hottentots, however, extract both copper and iron from the ores they find in their native mountains. But the grand advantage of the Cape, at leaſt that which appeared ſuch in the eyes of the Dutch Eaſt-India company, was it's convenient ſituation, as a place of refreſhment for their ſhips; and, in this view, the bare inſpection of a map of Africa, ſhows it's ſuperiority to all other parts of that continent. But it's ſituation and climate are not now it's only excellencies, as a port of refreſhment; for it abounds with a variety of the beſt greens and fruits, and, in particular, with ſome of the fineſt grapes and oranges in the world—articles peculiarly proper for ſeamen after long voyages.

"The prodigious expence, and the perſevering attention which this colony coſt, during the uncommonly tedious period of it's helpleſs infancy, began at laſt to ſhew their effects, in the exportation of a little ſurplus corn. But, having ſince arrived at a ſtate of comparative maturity, the Cape not only ſupplies the ſhips of all nations, which touch there, with neceſſaries and comforts, in abundance, and at moderate prices, but ſupplies all the Dutch, and ſome foreign Aſiatic ſettlements, with great quantities of corn, flour, biſcuit, wines of various ſorts, brandy, butter, cheeſe, and ſalted proviſions. No country feeds a greater number of cattle than this, nor is their fleſh any where cheaper or better. An ox commonly weighs from 500 to 600lb. A farm may make from 1500 to 3000lb. of butter, annually. Many feed from 1000 to 6 or 8000 ſheep, and a few have as far as 15,000, and cattle in proportion." 'We were not a little pleaſed,' ſays Forſter, 'with the contraſt between this colony and the Portugueſe iſland of St. Jago. There we had taken notice of a tropical country, with a tolerable appearance, and capable of improvement, but utterly neglected by it's lazy and oppreſſed inhabitants. Here, on the contrary, we ſaw a neat, well-built town, all white, riſing in the midſt of a deſert, ſurrounded by broken maſſes of black and dreary mountains; or, in other words, the picture of ſucceſsful induſtry.'

"Here, as in other Dutch towns, their genius manifeſts itſelf in rows of trees and canals; though experience proves the noxious effects of ſtagnant water; eſpecially in hot climates, and moſt fatally at Batavia.—The company's ſlaves are lodged and boarded, in a ſpacious houſe.—The large hoſpital for the Eaſt Indiamen, is generally pretty much crowded; for theſe ſhips ſometimes carry 6, 7, or 800 men, to ſupply the regiments in India; and their confined ſituation, and ſhort allowance

allowance of water and ſalt proviſions, make ſuch havoc among them, that it is not very uncommon for an Indiaman, ſo freighted, to loſe, between Europe and the Cape, 80 or 100 men, and to ſend 2 or 300 to the hoſpital. It is a lamentable fact, that the facility with which the Zeelverkoopers (ſoul-mongers) inveigle theſe unfortunate people, makes the company's ſervants more indifferent than they ſhould be about their preſervation. They are plentifully ſupplied, however, with an antiſcorbutic diet, which, with the air of the place, certainly contributes more to their recovery than their doctors, who drench them all, indiſcriminately, with the cheap contents of two or three huge bottles.

"We may eſtimate the whites of all ages, and both ſexes, at between 16 and 20,000. There are in the colony five or more ſlaves to one white man. Theſe ſlaves are chiefly from Madagaſcar, with a mixture of Malays, Bengaleſe, and ſome negroes.—The greater part of the coloniſts are Germans, with ſome French proteſtants, and Dutch. They are induſtrious, hoſpitable, and ſociable; but fonder of good living, than of acquiring knowledge, for which they may plead the plenty of good cheer, and the extreme ſcarcity of good ſchools. Such coloniſts as can afford the expence, generally ſend their ſons to Holland for improvement; but the education of their females is too much neglected.

"The Portugueſe explored the coaſt of Africa before any other modern European nation. Portugueſe Africa, as it may not improperly be called, extends on the weſt from about 5 degrees of north latitude, to 10, ſome ſay 15, degrees ſouth. Here, inſtead of being cooped up within the narrow limits of trading factories, as they are on other parts of the weſtern coaſt, they are ſettled in colonies, under a regular government, and have built ſeveral large towns. The ſoil, which is rich and well watered, they have, in ſeveral places, taught the natives to cultivate; for this kind of inſtruction forms no inconſiderable part of the policy of the Portugueſe clergy, who have taken ſo much pains to convert the natives, that it is thought they have been the means of making many of them better Chriſtians than themſelves.

"Awerri, though in the kingdom of Benin, is ſubject to the government of the Portugueſe, who have here a caſtle and a garriſon; alſo a church and a monaſtery. It is worthy of remark, that though the river of Benin is very fatal to the Engliſh and Dutch ſeamen who frequent it, yet the Portugueſe, who dwell farther within the country, do not experience any particular inſalubrity of climate. This is one inſtance, among many, which might be adduced, to make it probable, that the interior of almoſt all the weſtern parts of Africa is more healthful than the coaſt.

"Angola was firſt diſcovered by the Portugueſe in 1484. They afterwards conquered ſeveral of it's provinces, and rendered the native king tributary for the reſt, as his ſucceſſors have ſince continued. Their acquiſitions may extend 240 leagues along the coaſt, and, in ſome places 100 within the land. The capital is St. Paul de Loando, which has a good harbour. It is the ſeat of the government, and

every

every three years receives a new governor from Portugal. The country has been cleared, drained, and cultivated in ſo many places, as to improve it's climate very conſiderably. Some years ago, a number of people from Biſcay were ſent out to work the excellent iron-mines in Angola; but they miſcarried, for want of proper ſupport. The power of the Portugueſe is chiefly ſituated in the interior parts; for the trade of the coaſt of Angola has always been open; and thither the French, Engliſh, and Dutch ſend yearly a conſiderable number of ſhips for ſlaves, &c.

"In 1484, Congo was diſcovered by Diego Cam, who, in behalf of his ſovereign, King John of Portugal, formed an alliance with the King of Congo, which has continued to the preſent day, with ſome interruptions, on the part of the Portugueſe. Their chief town, St. Salvadore, is ſituated 150 miles up the river Congo, or Zaire, upon an eminence, in a country well cultivated, and moſt commonly ſalubrious. It is a very extenſive place, but not proportionably populous, as the houſes are intermixed with ſpacious gardens, which, doubtleſs, is one cauſe of it's ſalubrity. Yet it's inhabitants muſt be very numerous, as it is ſaid to have twelve churches, and ſeven chapels, beſides the cathedral.

"Of Loango and Benguela we do not find any thing particular, except that the latter is very unhealthful. They are under the power or influence of the Portugueſe; and, I believe, are generally included in deſcriptions of Congo and Angola. In the interior parts of theſe laſt countries, it appears that the Portugueſe have many preſidios, or garriſons, who, with the aſſiſtance of the natives, have cleared and cultivated the land in their reſpective vicinities, raiſing maize, calavances, yams, bananas, and other proviſions and fruits.

"Many of the Portugueſe, at Loando, Colombo, St. Salvadore, and other places in this part of Africa, are exceedingly rich. It is common for a Portugueſe to poſſeſs 50, 100, and 200 ſlaves, and ſome of the more opulent are the maſters even of 3000. A religious ſociety, at Loando, are the proprietors of no fewer than 12,000 ſlaves, who being blackſmiths, joiners, turners, ſtone-cutters, &c. earn, by their work, from 4 to 500 rees per day, for the ſociety.—How far this ſort of revenue is compatible with the intention of ſuch an inſtitution, it is not my preſent buſineſs to enquire.

"In Congo, chriſtianity was preached ſoon after the arrival of the Portugueſe; and miſſionaries are ſtill well received there. Encouragements have been offered at different times, particularly in the beginning of the preſent reign, to the religious in the convents of Portugal, to labour in the converſion of the natives of Congo, Angola, and their other African poſſeſſions. Many miſſionaries have accordingly undertaken this pious work, at different times. Their ſucceſs appears to have been conſiderable, and, had they been ſteadily ſupported, there is reaſon to believe it would have been compleat. Many Portugueſe biſhops reſide in this part of Africa, and numbers of the natives have been regularly ordained prieſts.

"To the farther credit of that nation, it ought to be noted, that they carry on the ſlave trade from the countries juſt mentioned, with as

much humanity as it is poſſible to unite with ſuch a traffic. Great numbers of ſlaves, who come from the remote inland countries, are ſhipped from Congo, Angola, &c. None, however, who belong to theſe laſt countries, are ſent as ſlaves to the Brazils, except black convicts. The Portugueſe ſlave-ſhips are never over crowded, and the ſailors are chiefly blacks, called *Negros Ladinos*, who ſpeak their language, and whoſe buſineſs it is to comfort and attend the poor people on the voyage. The conſequences are, that they have little or no occaſion for fetters, ſo conſtantly uſed in the other European ſlave-ſhips, and that they perform their voyages from Angola, &c. to Brazil with very little mortality.

"So vaſt are the territories poſſeſſed by, or tributary to, the Portugueſe on the eaſt of Africa, that they may, or might have been ſaid to be maſters of a great part of that whole coaſt. They are never interrupted there by any other European nation, except occaſionally by ſhips in diſtreſs, on their return from India; for, in going out, they ſteer quite another courſe.

"The Portugueſe, however, do not appear entirely to exclude other nations from a participation in ſome parts of the trade of the eaſtern parts of Africa. For, when I was at Havre de Grace in 1787, ſome ſlave-merchants in that city were ſending a few ſhips to Moſambique for ſlaves. They told me, that, although, in the long, cold, and ſtormy voyage round the Cape of Good Hope, many more of the ſlaves died, than even in the paſſage from the coaſt of Guinea to the Weſt Indies; yet that their cheapneſs at Moſambique fully compenſated for their increaſed mortality. So coolly merchants talk of ſacrificing the lives of mankind, at the ſhrine of the "Mammon of unrighteouſneſs!

"The Portugueſe poſſeſſions on the Eaſt of Africa begin about 25° ſouth latitude, according to Poſtlethwayt. Here they trade for ivory and gold, and they abound ſo much with cattle, that they yearly furniſh numbers to the Dutch at the Cape of Good Hope. St. Martin and Puado are two iſlands in the River Cumana, where the Portugueſe and the natives plant proviſions for the ſhipping, and whence they have ſome trade with the inland negroes.

"The kingdom of Sofala extends about 30 leagues along the coaſt, and about 80 up the country. It is, or was governed by a Mahometan prince, tributary to the King of Portugal. The ſands of the river of Sofala have a very conſiderable admixture of gold-duſt. The inhabitants of the town and kingdom of Sofala are a mixture of Mahometan Arabs, idolatrous Caffres, and bad Portugueſe Chriſtains.

"From the mines of Sofala, more than 2,000,000 of merigals of gold are ſaid to be yearly extracted, the value of which, M. Savary computes, at 28,000,000 livres Tournois, or £1,166,666 ſterling. Theſe riches are divided between the Portugueſe, the Arabians of Ziden and Mecca, and the native traders of Quiloa, Monbaſe, and Melinda. Theſe laſt come in ſmall barks, called zambucks, bringing dyed and white cottons, ſilks, ambergris, and ſuccinum, or yellow and red amber. The Arabians exchange goods from the Eaſt Indies and the Red Sea, to the amount of £140,000 ſterling per annum, for ivory

and

and gold. The merchants of Sofala alſo exchange European and Aſiatic goods for the gold of the inland country of Monomotapa, which comes down in ſuch quantities, that the Portugueſe call the Prince of Monomotapa, *the golden emperor*.

"On the weſt of Sofala, is the kingdom of Mongas, chiefly remarkable for the quantity of gold it yields, particularly at Maſſapa, Maninas, and the mountain of Ophir, whence, it is believed, Solomon's treaſures were brought. Some, however, are of opinion that Solomon brought his gold from Sumatra, on the north end of which, there is likewiſe a mountain which to this day is called Ophir. See Bolts on Indian Affairs, Vol. I. p. 6. At Maſſapa, the Portugueſe are ſettled, under the authority of the Governor of Mozambique.

"This emporium, is on an iſland in latitude 15° ſouth (D'Anville.) It is extremely populous, one half of the inhabitants being Portugueſe, and the reſt negroes. The iſland abounds with cattle, poultry, fruits and proviſions of all kinds; ſo that, in this reſpect, it is a very proper place of refreſhment for the Portugueſe Eaſt Indian ſhips, eſpecially as the harbour is very good; but the air is reckoned none of the beſt. At Mozambique are numbers of monks, ſome of whom are frequently ſent, by the governor, to the oppoſite continent; not ſo much, it is ſtrongly ſuſpected, on ſpiritual errands, as to diſpoſe the natives to give his excellency good bargains of their gold, ivory, and ebony.

"When the European goods arrive at Mozambique from Portugal, they are taxed by the king's factor, who ſends them to Chilimani, at the mouth of the Senna, whence they go very far up the river, to a Portugueſe town, whither the Africans come, ſometimes from the diſtance of two or three months travel, to buy, or take on credit, the European goods, for a ſtipulated quantity of gold, and which they faithfully bring or ſend. This barter yields cent per cent, and indeed, may well be called the Chili and Peru of the Portugueſe; gold being ſo common, that, at a month's journey from the coaſt, houſehold utenſils and ornaments are frequently made of it. Of the trade of Mozambique, we may form ſome idea from the governor's duties, which annually amount to between 60 and £70,000 ſterling; excluſive of the pay of the troops and garriſons, and of a conſiderable tribute annually remitted to the crown of Portugal.

"Lamo, Pata, and Ampaſa, on this coaſt, are, or were, governed by chiefs dependent on the Portugueſe.

"This large country was, for many years, governed by a prince tributary to the ſame nation. But the circumſtances are now reverſed; for the Portugueſe are obliged to purchaſe by annual preſents, permiſſion to trade, and to explore the country for gold—a revolution probably cauſed partly by the declenſion of the Portugueſe power, and partly by the advancement of the natives in the arts of commerce and policy, which made them ſenſible both of their own intereſts, and of their own ſtrength. The capital, likewiſe called Melinda, was wholly built by the Portugueſe, in the latitude of 5° ſouth (D'Anville) with a very good harbour, and a ſtrong citadel. It is a large city, ſaid to contain 30,000 Portugueſe, excluſive of natives, and 17

chriſtian churches, beſides religious houſes. From their ware-houſes, in Melinda, they ſupply the country with European goods to a vaſt diſtance inland, whence they procure ivory, in ſuch quantities as to load ſhips with that commodity alone. Adjoining to Melinda, are five other kingdoms, all tributary to the ſame nation; ſo that, in this part of Africa alone, the Portugueſe, in the zenith of their power, might have been ſaid to hold the ſovereignty of a country as large as Spain and Portugal together.

"The natives, however, carry on ſome trade with their own veſſels, in which they frequent the Red Sea, and the ports of Arabia. They are alſo ſeen in the Indian ſeas, eſpecially at Cambaya, a maritime town in the territories of the Great Mogul. The Indians and Arabians, on the other hand, ſometimes bring them goods to Melinda. Yet the Portugueſe ultimately tranſact all the trade of Melinda, which is but little inferior to that of Mozambique. Gold from Sofala, ivory, copper, quickſilver, all ſorts of ſilks and cottons from Europe and the Eaſt Indies, ſpices, rice, and other grain are the chief articles brought to Melinda.

"The inhabitants of Brava conſume great quantities of European manufactures; for they dreſs in the Portugueſe manner, like the people of Quiloa, and many other parts of this coaſt.

"From Brava to Cape Guardafui, extends the coaſt of Ajan, and from thence to Raſbel, at the entrance of the Red Sea, the country is called Adel. Theſe vaſt territories abound in cattle, corn, and fruits; and Ajan affords the Portugueſe ſeveral whole cargoes of ivory yearly. The inhabitants are, or were, partly tributary to the Portugueſe, and partly ſubject to Mooriſh and Arabian princes. After all, I find it is believed, that the natives have diſpoſſeſſed the Portugueſe of moſt of their territorial acquiſition on the continent of the Eaſt of Africa."

422. *Iſlands of Africa.*] The Iſland of Madagaſcar, the Comora Iſles, thoſe of Socotra, La Reunion or Bourbon, France, and Mauritius or Rodrigue, all lying on the Eaſt of Africa, have been already deſcribed. (See Art. 118, 119, 120.)

On the Eaſt of Africa, there are alſo ſeveral iſlands. Some are detached, as St. Helena, Aſcenſion, St. Matthew, &c. Others are ſituated in cluſters as the Cape Verd Iſlands, the Canaries, the Madeiras, and, in the middle of the Atlantic Ocean, the Azores or Weſtern Iſlands.

"The Cape Verd Iſlands are generally mountainous; but their lower hills are often covered with verdure, and have a gentle declivity, with extenſive vales between them. They are ill ſupplied with water; but Santiago has one tolerable river. The hills are covered with ſtones, which are a ſpecies of lava. The ſoil, which is fertile enough in the vallies, is a kind of rubbiſh of cinders and ochreous aſhes: hence it is probable that all theſe iſlands have contained volcanos; eſpecially as Fogo ſtill conſiſts of a burning mountain.

"Though mere deſerts when the Portugueſe firſt ſettled on them, they now produce ſeveral commodities for trade, as raw and dreſſed hides, oil extracted from tortoiſes, honey, wax, ſalt, Turkey wheat, (Indian corn or maize) oranges, lemons, &c. and ſupply veſſels with tame and wild

wild fowls. Cattle are in ſuch plenty, that ſeveral ſhips are employed in carrying them to Brazil, whither they alſo convey quantities of fiſh, caught and ſalted near Cape Verd. He might have added, that theſe iſlands ſupply the Weſt Indian ſugar colonies with great numbers of cattle, aſſes, and mules, and that, at Santiago, the inhabitants manufacture cloths of cotton, and of ſilk. They are very beautiful articles, and are commonly called in England, "Saint Jago cloths," a name, however, often applied to "Guinea cloths," or thoſe fabricated by the negroes on the continent of Africa.

"From the varieties of ſoil, climate, and expoſure in the Canary Iſlands, the valuable productions, of temperate and tropical countries, thrive in it. The animals are camels, deer, horſes, aſſes, mules, cows, ſheep, goats, hogs, rabbits, fowls, geeſe, ducks, &c. The iſland of Teneriffe riſes on all ſides towards the Pike, in it's centre, like a hanging garden, till within a league of the clouds, which are not above mid-way up the Pike. But there are no houſes any where above three leagues from the ſea. The firſt league from the ſhore produces vines, the next corn, the third woods of cheſnut trees, &c. interſperſed with ſome corn. Beyond theſe woods, are the clouds which, in fine weather, come down in the evening, and reſt on the woods till morning, when they retire about a league. Where the clouds reſt in the day, there are many pine-trees, beyond which grows no graſs or vegetable, except a ſhrub called *retama*.

"Of the Canary Iſlands, which are ſeven in number, Tenerife is the moſt conſiderable. It is about 36 leagues in circumference. The latitude of it's centre is 28 deg. 30 min. N. longitude 16 deg. 25 min. W. from London.

"The principal differences in the climates of theſe iſlands, ariſe from their different elevations above the ſea. For eight months in the year, the ſummits of them all, except Lancerota and Fuerteventura, are covered with ſnow. Yet, in their vallies and ſhores, the cold is ſeldom ſo great as to render fires neceſſary. A very great proportion of the ſurfaces of all the Canaries, is covered with lava, calcined ſtones, and black duſt or aſhes, formerly emitted by volcanos, the remains of which are ſtill very viſible in all the iſlands; and ſome of them, among which is the Pike of Teneriffe, are not yet extinguiſhed.

"The preſent inhabitants of theſe iſlands, who amount to near 200,000, are deſcended from a mixture of the Spaniſh conquerors and the aborigines, on whom the government of that period conferred equal privileges. In conſequence of this wiſe and humane policy, the Spaniards eaſily incorporated with the natives; ſo that their poſterity have long formed but one people.

"Two of the three iſles of Madeira, being ſmall, are ſeldom noticed. Madeira, properly, is about 55 miles long and 10 broad. It conſiſts of one large mountain, whoſe branches riſe every where from the ſea towards the centre, where there is an excavation, from which, and from the greater part of the ſtones being lava, it appears that a volcano has formerly exiſted here.

"Many rivulets deſcend, from the ſummit, in deep chaſms, or glens. Their beds are in ſome places, covered with ſtones, brought down by the winter torrents of rain and melted ſnow. The water is conducted by wears into the vineyards, where ſome have it conſtantly, and others once, twice or thrice a week. The heats rendering irrigation abſolutely neceſſary, the planters of new vineyards are obliged to pay dear for water to thoſe who have a conſtant ſupply.

"Wheat and barley are ſown, where the vines are decaying from age, or are newly planted. But, as the crops do not afford above three month's proviſions, corn is imported from America, in exchange for wine. About 30,000 pipes of it, from 110 to 120 gallons are made, upon a mean, every year. About 13,000 pipes of the better ſorts are exported, and the reſt made into brandy and vinegar, or conſumed at home. The vineyards are incloſed with walls, and hedges of prickly pear, pomegranates, myrtles, brambles, and wild roſes. The gardens produce all the European fruits, with, now and then, ſome tropical ones, as bananas, goavas, and pine-apples.

"All the domeſtic animals of Europe are found at Madeira. The mutton and beef are ſmall, but well taſted. The horſes, though not large, are ſure footed; and climb with agility, the difficult paths of the iſland. There are no wheel-carriages of any kind; but in the town, they convey heavy goods on ſledges drawn by oxen. The only wild quadruped here is the grey rabbit. Many wild birds, common in Europe, are found in Madeira; but very few hens, or other tame birds, owing, perhaps to the ſcarcity of corn. There are no ſnakes whatever in this iſland; but the vineyards and gardens, and even the houſes, ſwarm with lizards. The ſhores are not without fiſh; but, as they are not in ſufficient plenty, for the Lent ſeaſon, "herrings" ſays Dr. Forſter, "are brought from Gothenburg, and cod from North America.

"The country people are very ſober and frugal; their diet being generally bread and onions, or other roots, with little animal food. Their drink is water, or a fermented infuſion of the refuſe rind of the grape; for the wine, which their own hands prepare, they ſeldom, if ever, taſte. Their chief occupation is raiſing vines; but as this requires not much attendance, for a great part of the year, they naturally incline to idleneſs. Indeed, warmth of climate, where great proviſion againſt inclemency of weather is unneceſſary, and where hunger is eaſily ſatisfied, will probably produce indolence, where the legiſlature does not counteract it by encouraging induſtry. But, it ſeems, the Portugueſe legiſlators are not thus diſpoſed; for, though they have lately ordered olive-trees to be planted here, on ſpots too dry and barren for vines, they have given the labourers no temporary aſſiſtance, and have offered no premiums, to overceme their reluctance to innovation, and to labour."

The Azores, or as they are called, the Weſtern Iſlands, are nine in number, and are ſituated between 25 and 32 deg. weſt long. and between 37 and 40 north lat. 900 miles weſt of Portugal, and as many eaſt of Newfoundland, lying almoſt in the mid-way between Europe, Africa, and America. They were diſcovered in the middle of the fif-

teenth century, by Joſhua Vander Berg, a merchant of Bruges in Flanders, who, in a voyage to Liſbon, was, by ſtreſs of weather driven to theſe iſlands, which he found deſtitute of inhabitants, and called them the Flemiſh Iſlands. On his arrival at Liſbon, he boaſted of this diſcovery, on which the Portugueſe ſet ſail immediately, and took poſſeſſion of them, they were called in general the Azores, from the great number of hawks and falcons found among them. All theſe iſlands enjoy a very clear and ſerene ſky, with a ſalubrious air; but are expoſed to violent earthquakes, from which they have frequently ſuffered: and alſo by the inundations of ſurrounding waves. They are, however, extremely fertile in corn, wine, and a variety of fruits, alſo cattle, fowl, and fiſh.

223. *New Plan for exploring Africa.*] The African Aſſociation of London, perſevering in their deſign of exploring the interior parts of that continent, have equipped two veſſels for a new expedition; and they are to be aſſiſted by the Britiſh government with the ſum of 6000l. ſterling. Taking for granted, that Goree has been abandoned by the French, the adventurers are firſt to proceed thither, where they will find a town ready built, and fitted for every purpoſe of health and accommodation in a hot climate. From this firſt ſtation they propoſe to ſail for Fatatenda, on the river Gambia, beyond which veſſels of any conſiderable burden cannot conveniently proceed. From Fatatenda ſome of the party are to proceed to Bambouk, and from that to endeavour to penetrate to the river Niger, or to the city of Tombuctoo.—The chiefs of the country are to be engaged to aſſiſt in the undertaking, but with a precaution which has never before been taken: they are to receive no previous douceurs, and no rewards whatever, till they ſhall produce certificates, or other proofs, that they have actually performed their engagements; and then they will be paid the rewards ſtipulated on board the veſſels, or at the places where the goods are ſecured.

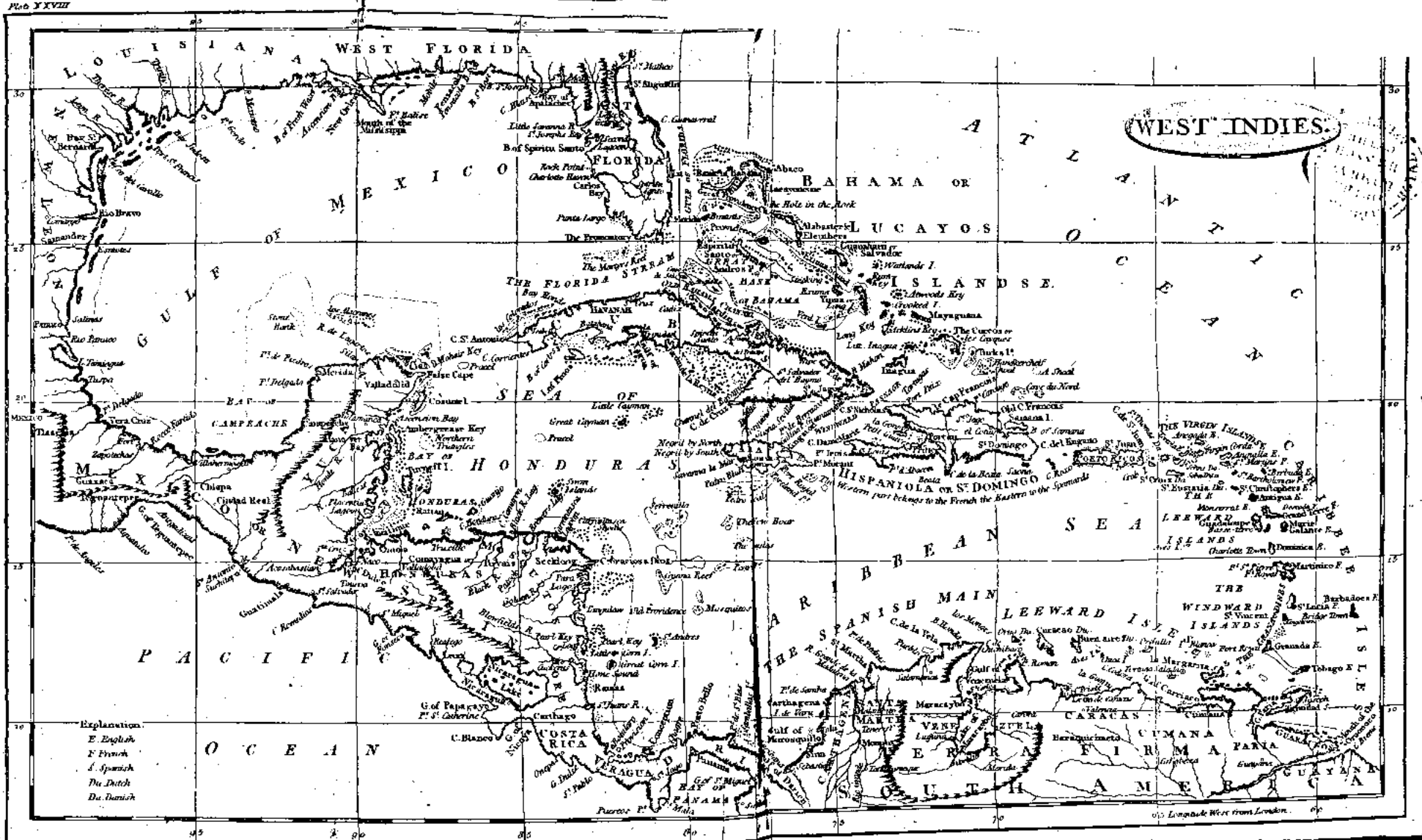
PART

PART IX.

DESCRIPTION OF AMERICA.

AMERICA is the laſt but moſt extenſive quarter of the globe. It was in the latter end of the fifteenth century when the Portugueſe had diſcovered the paſſage to India by the Cape of Good Hope, and thus deprived the Italian States of thoſe lucrative emoluments which they obtained in furniſhing Europe with the coſtly articles of India, which they received by way of the Red Sea, that America was unfolded to the view of the European States. At that time they generally acknowledged the ſupremacy of the Pope. The Roman Pontiff was unacquainted with the figure of the earth, and had granted a bull to the Portugueſe, entitling them to all the lands, iſlands, &c. they had or ſhould diſcover to the eaſtward of the meridian of the Azores. Chriſtopher Columbus, a native of Genoa, propoſed to his countryman to evade the force of the bull, and to retrieve a part of their loſt traffic, by ſailing to India by a weſtern courſe. They were not better geographers than the biſhop of Rome; they treated his ſchemes as the reveries of a madman. Diſappointed here, he applied ſucceſſively to the courts of Liſbon, Paris, and London, but without ſucceſs. His laſt reſource was to the court of Spain; here his propoſals were received with candour, but with caution. At laſt, after about eight years attendance, by the particular countenance of the queen Iſabella, who raiſed the money neceſſary for the deſign on her own jewels, in 1492, with a fleet of three ſhips, and the title and command of an admiral, Chriſtopher ſailed from Spain.

Without charts to direct him, or lights from former navigators, without experience of the winds or currents peculiar to that prodigious tract of ſea which lay before him, he launched at once into the boundleſs Ocean. Anxious, no doubt, were his own feelings on this adventurous voyage; his companions were diſcouraged, and began to be mutinous. To increaſe their deſpondence, it was obſerved that the compaſs varied from it's former poſition. The pilots were ſtruck with terror. He ſtill had hopes, and for a while endeavoured to appeaſe and encourage his fellows with the accidental appearances of land, birds and floating ſea weeds. At length, when hope ſeemed ready to leave them all, when the crew began to inſiſt on his returning, and even threatened to throw him overboard, after a voyage of thirty-


WEST INDIES.
LOUISIANA
WEST FLORIDA
MEXICO
GULF OF MEXICO
FLORIDA
BAHAMA OR LUCAYOS
ATLANTIC OCEAN
ISLANDS E.
THE FLORIDA STREAM
HAVANAH
BAY OF HONDURAS
CAMPEACHE
MEXICO
HONDURAS
NEW SPAIN
PACIFIC OCEAN
SEA OF
HISPANIOLA OR ST. DOMINGO
CARIBBEAN SEA
THE SPANISH MAIN
LEEWARD ISLANDS
THE WINDWARD ISLANDS
COSTA RICA
NICARAGUA
CARTHAGENA
CARACAS
CUMANA
PARIA
GUIANA
SOUTH AMERICA
Explanation.
E. English
F. French
S. Spanish
Du. Dutch
Da. Danish
Longitude West from London

three days, they discovered the land, which put an end to the commotions.

Columbus first landed on one of the Bahama Islands, but there, to his surprise and sorrow, discovered, from the poverty of the inhabitants, that these could not be the Indies he was in quest of. In steering southward, however, he found the island called Hispaniola, abounding in all the necessaries of life, inhabited by a humane and hospitable people, and, what was of still greater consequence, as it insured his favourable reception at home, promising, from some samples he received, considerable quantities of gold. This island, therefore, he proposed to make the centre of his discoveries; and having left upon it a few of his companions, as the ground-work of a colony, returned to Spain to procure the necessary reinforcements.

The court was then at Barcelona: Columbus travelled thither from Seville, amidst the acclamations of the people, attended by some of the inhabitants, the gold, the arms, utensils, and ornaments of the country he had discovered. This entry into Barcelona was a species of triumph more uncommon, and more innocent than that of conquerors. In this voyage he had acquired a general knowledge of all the islands in that great sea which divides North and South America; but he had no idea that there was an ocean between him and China. The countries which he had discovered were considered as a part of India. Even after the error, which gave rise to this opinion, was detected, and the true position of the New World was ascertained, the name has remained, and the appellation of *West Indies* is given by all the people of Europe to the country, and that of *Indians* to it's inhabitants.

In a subsequent voyage, this great adventurer discovered the American continent. For a while caresses were heaped upon him, but he lived to be treated like a traitor in the very country he had discovered, and was ignominiously sent over to Europe in chains. Here, however, he was honourably acquitted, and had the happiness to reflect that his adventures had been untainted with cruelty or plunder, vices which so horridly deformed the acts of succeeding adventurers.

The extensive continent of America reaches from the fifty-sixth degree of south latitude, to the impenetrable regions of ice and snows of the northern frigid zone, where it nearly extends through every degree of western longitude from London. On the east, it is bounded by the great Atlantic Ocean; it's western shores and southern extremity are washed by the Pacific and vast South Sea. It is in length, from north to south, about nine thousand miles, and varies from it's greatest breadth of three thousand six hundred and ninety miles, to that of sixty, at the Isthmus of Darien, where America is divided into north and south.

The following tables contain the divisions of both North and South America.

NORTH AMERICA.

Countries.	Length. miles	Breadth. miles	Chief Towns.	Latitude. D. M. S.	Longitude from Greenwich. in Degrees. D. M. S.	in Time. H. M. S.
New Britain, or Esquimaux, Greenland, and the western parts, but little known.						
Canada	800	200	Quebec	46 55 0 N.	69 53 0 W.	4 39 30 aft.
Nova Scotia	350	250	Halifax	44 45 0 N.	64 30 0 W.	4 18 aft.
United States	1390	700	Philadelphia	39 57 0 N.	75 8 0 W.	5 0 aft.
E. Florida, W. Florida	500	440	St Auguſtine, Penſacola	30 8 0 N.	81 10 0 W.	5 25 aft
				30 32 0 N.	87 20 0 W.	5 49 aft.
Louiſiania, bounds unkn			New Orleans	30 0 0 N.	87 5 0 W.	5 48 aft.
New Mexico, and California	2000	1600	St. Fee, St. Juan	35 32 0 N.	105 0 0 W.	7 0 aft.
Mexico, or New Spian	2000	600	Mexico	19 54 0 N.	100 5 0 W.	6 40 aft.

SOUTH AMERICA.

Terra Firma	1400	700	Panama	8 48 0 N.	80 28 0 W.	5 22 aft.
Peru	1800	500	Lima	12 1 0 S.	76 49 0 W.	5 7 aft.
Amazonia	1200	960	Little known to Europeans.			
Guiana	780	480	Surinam	6 0 0 N.	55 30 0 W.	3 42 aft.
			Cayenne	4 56 0 N.	52 15 0 W.	3 29 aft.
Brazil	2500	700	St. Sebaſtian	22 59 0 S.	44 16 0 W.	2 57 aft.
			St. Salvadore	12 0 0 S.	38 0 0 W.	2 32 aft.
Paraguay, or La Plata	1500	1000	Aſſumption and Buenos Ayres	34 10 0 S.	60 40 0 W.	4 3 aft.
				34 35 0 S.	58 31 0 W.	3 54 aft
Chili	1200	500	St. Jago	33 40 0 S.	77 0 0 W.	5 8 aft.
Terra Magellanica, or Patagonia, not colonized by Europeans, 700 L. 300 B.						

PRINCIPAL NORTH AMERICAN ISLANDS.

Names.	Chief Towns.	In Poſſeſſion of	Names.	Chief Towns.	In Poſſeſſion of
Newfoundland	Placentia		Tobago		Engliſh
Cape Breton	Louiſbourg		Cuba	Havannah	Spaniards
St. John's	Charlotte Town		Hiſpaniola	St. Domingo	Spain & France
Bermuda Iſlds.	St. George				
Bahama Iſlds.	Naſſau		Porto Rico	Porto Rico	Spaniards
Jamaica	Kingſton		Trinidad		Spaniards
Barbadoes	Bridgetown		Margarita		Spaniards
St. Chriſtophers	Baſſeterre	Engliſh	Martinico	St. Peter's	Engliſh
Antigua	St. John's		Guadaloupe	Baſſeterre	French
Nevis	Charles Town		St. Lucia, St. Bartholomew, Deſcada, and Marigalanta		Engliſh
Montſerrat	Plymouth				Engliſh
Barbuda					Engliſh
Anguilla					Engliſh
Dominica			St. Euſtatia		Dutch
St. Vincent	Kingſton		Curaſſou		Dutch
Granada	St. George		St. Thomas		Danes
			St. Croix	Baſſe-End	Danes

SECTION

Plate XXIX

Engraved for Walker's Geography &c.

SECTION XLIII.

American Iſlands.

424. *Weſt Indies.*] The Weſt Indian iſlands was the firſt part of America diſcovered by the Europeans. They are ſituated in a large gulf called the Carribean Sea, between the continents of North and South America, ſtretching from the coaſt of Florida to the river Oronooko, and are divided between five European nations, viz. the Engliſh, Spaniards, French, Dutch, and Danes.

The climate, allowing for thoſe accidental differences, which the ſeveral ſituations and qualities of the land themſelves produce, is nearly the ſame throughout all the Weſt India iſlands lying within the tropics. They are expoſed to a heat which would prove intolerable, did not the trade wind, as the riſing ſun gathers ſtrength, blow on them from the ſea, and refreſh the air in ſuch a manner as to render the noon-day heat leſs intenſe than might be expected. On the other hand, as the night advances, a breeze begins to riſe, which blows as if it proceeded from the central point of each iſland to all quarters at one and the ſame time. Vaſt bodies of clouds alſo ſcreen the inhabitants from the ſcorching rays of the vertical ſun.

Their rains are different from ours; they are rather floods than ſhowers. The waters pour down from the clouds with amazing impetuoſity; the rivers ſwell in a moment; new brooks and lakes are formed, and in a ſhort time all the low country is totally under water. Theſe rains mark out the ſeaſons in the Weſt Indies, where the whole year is properly a continued ſummer. The trees are always covered with leaves; froſts and ſnows are unknown; and indeed the ſame deſcription may be applied to all the torrid zone.

The conſequences of theſe ſtorms, however, are trifling, when compared to thoſe that attend the hurricanes, to which this part of the world is very ſubject; by theſe the aſſiduous labour of many years is often deſtroyed in a moment. The hurricane is a violent guſt of wind, rain, thunder, and lightning, attended with a dreadful ſwelling of the ſea, and ſometimes with an earthquake. As a prelude to the approaching havock, the aſtoniſhed planter ſees whole fields of ſugar-canes whirled into the air, and ſcattered over the face of the adjacent country. The ſtrongeſt trees of the foreſt are torn up by the roots, and driven about like ſtubble; the windmills are ſwept away in a moment; their utenſils, their fixtures, the ponderous copper boilers, and ſtill of ſeveral hundreds weight, are wrenched from the ground, and battered to pieces; their houſes fail to give their wonted protection,

the

the roofs are torn off, and the rain ruſhes in with a violence almoſt irreſiſtible, or perhaps all is tumbled down together in one promiſcuous ruin.

The inhabitants have ſome forewarning of this uproar of the elements. Thus, if at the change of the moon the ſky appears very turbulent, the ſun redder than at other times, a dead calm ſucceeds inſtead of the uſual breezes; the hills are clear of thoſe clouds and miſts which uſually hover about them; if a hollow rumbling ſound, like the ruſhing of a violent wind, is heard in the wells and clefts of the mountains, the ſtars at night appear larger than uſual, and ſurrounded with a ſort of bur; the ſky, in the north-weſt, has a black and menacing appearance; the ſea emits a ſtrong ſmell, and riſes into vaſt waves, often without any wind; the wind itſelf forſakes it's ſteady ſtream from the eaſt, and ſhifts to the weſt, blowing violently and irregularly at intermiſſions. Theſe ſigns predict that a hurricane will happen at the ſucceeding full. Nearly the ſame ſigns happen at the full, before a hurricane comes on at the change; and, by theſe indications the planters often ſecure ſome part of their effects, together with the lives of themſelves and thoſe of their families.

Sugar and rum are the ſtaple commodities of the Weſt Indies. The ſugar is the eſſential ſalt of the plant, extracted from the juice by boiling, ſcumming and cryſtallization. The rum is diſtilled from the molaſſes, and the dregs of the juice, after the ſalt is purified.

The Portugueſe were the firſt who cultivated the ſugar-cane, and their firſt plantations were in the Madeira iſlands, but afterwards removed to Braſil, and ſince diffuſed over the different iſlands of the Weſt Indies. The variety of tropical fruits flouriſh here, as lemons, oranges, limes, citrons, dates, pomegranates, tamarinds, grapes, pine-apples, bananas, coffee, guavas, plantains, cocoa-nuts, and the cocoa or chocolate. They produce a variety of fine woods, dyes, gums, drugs, ſpices, even nutmeg and cinnamon trees are ſaid to be found in the Weſt Indies; a variety of other vegetables alſo, as indigo, tobacco, cotton, ſilk-graſs, &c. grow here.

The animals are, horſes, aſſes, mules, black cattle, goats, ſheep, and hogs, opoſſums, racoons, and rabbits. Of wild and tame fowls their is a great variety, as ducks, teal, widgeons, geeſe, turkies, pidgeons, guinea-hens, plovers, flamingoes, and ſnipes; various kinds of parrots, parroquets, and the beautiful humming-bird. The bays and rivers abound in turtle, and a variety of fiſh, as the mountains do in ſerpents and other noxious animals.

Sugars, rum, cotton, indigo, chocolate, coffee, dying and phyſical drugs, ſpices and hard woods, form the principal exports of theſe iſlands. From the neighbouring continent they import lumber and proviſions; from Europe, manufactures; wines from the African iſlands; and here the impious practice of trafficing in men is warranted by human laws, and carried on with complicated circumſtances of cruelty; and by far the greateſt number of the people in the Weſt India iſlands are as beaſts of burthen to the remaining few, and treated by their lordly maſters worſe than horſes are.

425. *Bahamas.*

425. *Bahamas.*] The Bahama iſlands, which are ſaid to be five hundred in number, though ſome of them are merely rocks, lie to the ſouth of Carolina, between twenty-one and twenty-ſeven deg. north latitude, and ſeventy-three and eighty-one weſt longitude. They extend along the coaſt of Florida, as far as the Iſle of Cuba. Twelve of them, however, are large and fertile, but, except Providence Iſle, they are almoſt uninhabited.

426. *Bermudas.*] The Bermudas or Summer Iſlands, which lie in the vaſt Atlantic Ocean, lie about three hundred leagues eaſt from Carolina, in thirty-two deg. north latitude, and in ſixty-five deg. weſt longitude, are a cluſter of ſmall iſlands, ſaid to be four hundred in number, and containing collectively only about twenty thouſand acres. The air is extremely ſalubrious, and the beauty and richneſs of the vegetable productions are as great as can well be conceived. Though the ſoil is excellently adapted to the cultivation of vines, the chief employment of the inhabitants, who are ſuppoſed to be near ten thouſand, conſiſts in the building and navigating little ſloops and brigantines, which they occupy principally in the Weſt Indian and North American commerce. Theſe veſſels are equally remarkable for their ſwiftneſs, and the durability of the cedar wherewith they are conſtructed.

St. George, the capital, is ſituated at the bottom of a haven in an iſland of the ſame name; it has ſeven or eight forts, mounting ſeventy pieces of cannon, contains above a thouſand houſes, a handſome congregation-houſe, and other elegant public buildings.

427. *Newfoundland, &c.*] The iſlands of Newfoundland, Cape Breton, and St. John lie at the mouth of the great St. Lawrence river, and are celebrated for the prodigious ſhoals of fiſh that ſurround their coaſts. The foreſts are extenſive, and the animals various and many. Newfoundland is watered by many ſpacious rivers, and furniſhed with ſeveral large and excellent harbours. About five thouſand Europeans conſtantly reſide on the iſland. The chief towns are Placentia, Bonaviſta, and St. John. The Indians or natives are ſaid to be a gentle, mild, and tractable people, eaſily gained by civility and good uſage. The coaſts are extremely ſubject to fogs, frequently attended with ſtorms of ſnow and ſleet, and the beauties of a ſerene ſky are ſeldom beheld in this iſland. The ſoil, in moſt parts of the iſland, is rocky and barren, but in ſome of the vallies on the ſouthern coaſt deep and rich. The vegetable productions are but few: a kind of wild rye is found in ſome of the vallies; ſtrawberries and raſpberries are found in the woods, which alſo ſupply a variety of excellent timber. But the iſland is chiefly valued for it's great cod-fiſhery on thoſe ſhoals called the Banks of Newfoundland. In this branch of commerce, upwards of three thouſand ſail of ſmall craft are annually employed; on board of which, as well as on ſhore, for the purpoſe of curing and packing the fiſh, upwards of ten thouſand hands are employed. This fiſhery is ſuppoſed to increaſe the national ſtock upwards of 300,000l. annually, which is remitted to England in gold and ſilver, for cod ſold in the north, in Spain, Portugal, Italy and the Levant.

Very profitable fiſheries are likewiſe carried on along the coaſts of New Scotland, New England, and the Iſle of Cape Breton.

SECTION

SECTION LIV.

Britiſh America.

The vaſt continent of America, extending from the impenetrable frozen regions of the arctic, to a high latitude in the ſouthern hemiſphere, as it experiences all the varieties of climate which the earth affords, it's ſoils are various, and it produces moſt of the metals, minerals, herbs, fruits, and wood, to be met with in the other quarters of the globe, and many of them in the greateſt quantities and perfection.

It's mountains, lakes, and rivers, are the largeſt in the world.

To begin on the north with the moſt extenſive quarter of the globe, the parts of it which lie within the arctic circle are very little known, few European adventurers having penetrated ſo far, their fartheſt diſcoveries have never aſcertained whether Greenland is an inſular country, or a part of this vaſt continent: Greenland has already been deſcribed as a part of the territories of Denmark.

428. *Diviſions.*] The continental territories of the Engliſh in America comprehend New Britain, or the country of the Eſquimaux, Canada or the Province of Quebec, and Nova Scotia or Arcadia. On the eaſt and ſouth they are bounded by the Atlantic and the American ſtates; on the weſt and north their boundaries are undefined and blended with the lands of Indian nations and American wilds.

429. *Climate, Produce.*] Far to the north, the hardy pine tree, the only evergreen of polar regions, is no longer ſeen, and the cold womb of the earth ſeems incapable of giving life to any other productions than a few blighted ſhrubs. The accumulating ſnows, which cover the mountains of thoſe ſolitary and deſert tracts, together with the winds which blow from thence near three quarters of the year, occaſion a ſeverity of cold in this part of the world even in latitudes which are moderate and pleaſant in Europe. A principal part of this extenſive country lies in the ſame latitude with France; but it's natural hiſtory nearly anſwers the deſcription of Norway or Sweden. The winters are long and ſevere; the ſummers ſhort, warm, and pleaſant. In many places, corn, as well as fruits and other vegetables are produced, the meadow lands, which are well watered, yield the moſt luxuriant paſturage for vaſt numbers of great and ſmall cattle, and tobacco in particular is much cultivated, and ſeems perfectly congenial to the ſoil. Here alſo are the moſt antient and extenſive foreſts in the world, producing the various ſpecies of pines, firs, cedars, oaks, maple, aſh, walnut, beech, elm, and poplar.

430 *Animals.*] The animals of Britiſh America are alſo ſimilar to thoſe of the northern countries of Europe, as Buffaloes, bears, tigers, wolves,

wolves, mooſe deer, ſtags, rein deer, goats, foxes, beavers, otters, lynxes, martens, ſquirrels, ermines, wild cats, ferrets, weaſels, hares, and rabbits.

Of the feathered tribe there are numbers of eagles, falcons, goſhawks, tercels, ravens, owls, woodcocks, ſnipes, blackbirds, ſwallows, larks, thruſhes, finches, immenſe flocks of geeſe, ſwans, ducks, cranes, buſtards, partridges, and almoſt every ſpecies of wild fowl.

Among their reptiles the rattleſnake is the moſt remarkable.

Of ſea fiſh there are whales, morſes, ſea wolves, ſea cows, porpoiſes, cod fiſh, herrings, anchovies, pilchards, and various other kinds, and in the rivers and lakes there are pike, perch, carp, trout, &c.

431. *Rivers, Lakes, Bays.*] The rivers, lakes, and bays in this part of the world are numerous, large, and deep. The rivers here, which, from their magnitude might claim, if in other countries, particular mention, appear diminutive, if compared with the great river St. Lawrence, in which indeed many of them are ultimately abſorbed. The ſame may be ſaid of many capacious lakes, when compared with thoſe inland ſeas, the lakes of Canada; they are five in number, the Ontario, Erie or Oſwego, Huron, Michigan, and Lake Superior, the ſmalleſt of which is no leſs than two hundred leagues in circumference, and Lake Superior, by far the moſt ſpacious, and containing ſeveral large iſlands, is at leaſt fifteen hundred miles in circuit. Theſe lakes give riſe to ſeveral vaſt rivers, particularly the Miſſiſſippi, which runs from north to ſouth till it falls into the Gulf of Mexico, after a winding courſe of four thouſand five hundred miles, receiving in it's progreſs the Illinois, the Miſaures, the Ohio, and other great rivers, ſcarcely inferior to the Rhine or the Danube; and on the north the great river St. Lawrence, which runs a contrary courſe from the Miſſiſſippi, till it empties itſelf into the ocean near Newfoundland, after receiving the Outawais, the Champlain, Trois Rivieres, Deſpaires, Seguinay, St. John's, and ſeveral other rivers, and becoming at it's mouth about ninety miles wide. All theſe lakes are navigable by the largeſt veſſels, and have a communication with each other; except that the paſſage between Erie and Ontario is interrupted by a ſtupendous fall or cataract, called the Falls of Niagara. Where the rock croſſes it, it is about half a mile broad, and from the bend of the cliff deſcribes a creſcent; when it comes to the perpendicular fall, which is one hundred and fifty feet, words cannot expreſs the ſenſations occaſioned by ſeeing ſuch a vaſt body of water violently thrown from ſo amaſing an elevation on the rocks below, from which it again rebounds to a very great height; and from it's being converted into foam by theſe violent agitations, appears as white as ſnow. The noiſe of this fall is often heard at the diſtance of fifteen miles, and ſometimes much farther; and the vapour ariſing from it, which reſembles a cloud or pillar of ſmoke, may alſo be ſeen at a very conſiderable diſtance, and it is varied like the rainbow, whenever the ſun and the poſition of the traveller are proper for producing that phenomenon. Beaſts and fowls frequently loſe their lives in attempting to ſwim acroſs, and are found daſhed to pieces below; and ſometimes

Indians,

Indians, either through careleſſneſs or inebriety, meet the ſame tremendous fate; which circumſtances draw great numbers of birds of prey to the place to feaſt on the dead bodies.

430. *New Britain.*] New Britain, which is commonly called the country of the Eſquimaux, comprehends Labrador, New North and South Wales. Our firſt knowledge of this part of the world originated from a project ſtarted in England for the diſcovery of a north-weſt paſſage to China and the Eaſt Indies. Forbiſher, and after him Davis, were the firſt adventurers in this hardy navigation, and the Streights which they diſcovered ſtill bear their names. Early in the ſeventeenth century, Hudſon made three voyages on the ſame adventure; he entered the Streights which lead into that immenſe bay, which, together with the Streights, ſtill bear his name; he coaſted a great part of this new Mediterranean, and penetrated as far as eighty and an half deg. into the heart of the frozen zone, but was at laſt, with ſeven of his faithful adherents, committed by the crew, in an open boat, to the perils of the icy ſeas: theſe hardy adventurers were never more heard of, but the crew returned to Europe. The laſt diſcoveries of Cook ſeem to prove that this much deſired navigation is altogether impracticable.

The Hudſon's Bay company employ four ſhips and one hundred and thirty ſeamen: they have four forts, viz. Churchill, Nelſon, New-Severn, and Albany, which ſtand on the weſtern ſhore of the bay, and are garriſoned by one hundred and eighty-ſix men. They barter Engliſh commodities with the Indians for furs and peltry. The rudeſt workmanſhip meets with admirers among theſe uncultivated people, and the moſt faulty goods find a ready market; on the other hand, the ſkins and furs enter largely into Engliſh manufactures, and afford materials for opening a beneficial commerce with ſeveral European nations.

431. *Canada.*] The only towns of importance in Canada are Quebec, Trois Rivieres, and Montreal, all ſituated on the River St. Lawrence, by means of which an extenſive commerce is carried on, employing about ſixty ſhips and one thouſand ſeamen annually, though it is much interrupted by the ſevere winters, when the largeſt rivers are frozen over, and the ports conſequently blocked up. Their exports are ſkins, furs, ginſeng, ſnakeroot, cappillaire, wheat, &c. their imports the manufactures of Europe and the produce of the Weſt Indian iſlands.

Near Quebec is a fine lead mine; the whole country abounds in coals, and it is aſſerted that ſilver is found in the mountains.

432. *Nova Scotia.*] The inhabitants of Nova Scotia export all ſorts of lumber, ſuch as planks, ſtaves, hoops, and joiſts, together with immenſe quantities of fiſh; the latter, indeed, is their ſtaple commodity, and employs a great number of hands; their imports are the produce of the Weſt Indian iſlands and the commodities of Europe.

The principal towns in Nova Scotia, are Halifax on Chebucto Bay, Annapolis on Fundy Bay, St. John's on the mouth of a river of the ſame name; but the moſt recent eſtabliſhment, and which bids fair to become the moſt opulent, is that of Shelburne town, founded by the American loyaliſts or refugees.

SECTION

SECTION LV.

United States.

434. *Diviſions, Boundaries, &c.*] The United States are bounded on the weſt by numerous Indian nations; on the north by Britiſh America; on the weſt by the Atlantic; and on the ſouth by Spaniſh America. Their diviſions, dimenſions, number of inhabitants, &c. are exhibited in the following table:

Names of States and Colonies.	*Length*	*Breadth*	*No. of Inhabitants.*	*Cenſus taken.*	*Chief Towns.*	*Diſtance and bearing from Philadelphia.*		
New Hampſhire	180	60	102,000*	1787	Portſmouth	408	—	N.E.
Maſſachuſets	450	164	360,000*	1787	Boſton	343	—	N.E
Rhode Iſland	68	40	51,896	1783	Newport	280	—	E.N.E.
Connecticut	81	57	209,150	1782	Newhaven	181	—	N.E.
New York	350	300	238,897	1786	New York	95	—	E.N.E.
New Jerſey	160	52	149,435	1784	Trenton	30	—	N.E.
Pennſylvania	288	156	360,000*	1787	Philadelphia			
Delaware	92	16	37,000*	1787	Dover	72	—	S.S.W.
Maryland	134	110	253,630	1782	Annapolis	132	—	S.W.
Virginia	758	224	567,614	1782	Richmond	276	—	S.W.
North Carolina	758	112	270,000*	1787	Edenton	442	—	S.S.W.
South Carolina	200	125	180,000*	1787	Charleſton	814	—	S.S.W.
Georgia	600	250	98,000*	1787	Auguſta	934	—	S.W.
Vermont	155	60	100,000*	1788	Bennington	299	—	N.E.
Weſtern Territory	1000	450	6,000	1788	Adelphi	492	—	W.
Kentucky	included in Virginia		100,000*	1783	Lexington	947	by water	W.
		Total	3,083,622					

N. B. In the column containing the number of inhabitants, the numbers marked (*) are as reckoned in the convention at Philadelphia, in 1787, excepting North Carolina, Vermont, Weſtern Territory, and Kentucky; the others are taken from actual enumeration.

The diſtances of the ſeveral capitals from Philadelphia are reckoned as the roads run.

The United States were thirteen in number at the time of their firſt aſſociation, in 1776; ſince that time Vermont, Kentucky, and Weſtern Territory have been added, the laſt of which is of ſuch vaſt extent, that it is intended by Congreſs that it ſhall be divided into ten new ſtates, to be called Waſhington, Metropotamia, Peſilippi, Michigania, Illinoia, Cherſoneſus, Saratoga, Sylvania, Aſſenipi, and Polypotamia. Theſe ten ſtates (ſpreading over an immenſe tract of land,) are traverſed by the great river Ohio, in a courſe of 1200 miles, receiving into it's waters the innumerable rivers which are ſcattered over the whole country. On the north they are

bounded by the five great lakes, Superior, Michigan, Huron, Erie, and Ontario; which empty themſelves into the river St. Lawrence. On the eaſt they have the ſtates of New York, Pennſylvania, and Virginia, whoſe navigation (as well as the St. Lawrence) affords them a direct communication with the Atlantic Ocean. On the ſouth they are partly bounded by the mountains, and on the weſt by the vaſt river Miſſiſſippi, (whoſe ſource is unknown) and which, after flowing through the great continent of America, admitting into it's ſwelling waves the tributes of a thouſand waters, falls into the Gulf of Mexico.

From the beſt account that can at preſent be obtained, there are within the limits of the United States, three millions, eighty-three thouſand, and ſix hundred people. This number, which is rapidly increaſing both by emigrations from Europe and by natural population, is compoſed of people of almoſt all nations, languages, characters and religions. The greater part, however, are deſcended from the Engliſh; and, for the ſake of diſtinction, are called Anglo-Americans.

The Engliſh language is the one which is univerſally ſpoken in the United States, in which buſineſs is tranſacted, and the records kept.

Intermingled with the Anglo-Americans are the Dutch, Scotch, Iriſh, French, Germans, Swedes, and Jews; all theſe, except the Scotch and Iriſh, retain, in a greater or leſs degree, their native language, in which they perform their public worſhip, converſe, and tranſact their buſineſs with each other.

In deſcribing this part of the world, the accounts are principally taken from the American Geography. We may commence with a hiſtory of the ſettlements from the time that the wretched people of Europe firſt fled or adventured to 'the wilderneſs,' take a view of the revolt of the Britiſh colonies, and of the conſtitution adopted by them ſince they formed United States, and then enter into a brief deſcription of the ſtates ſeparately. As they yet offer an aſylum to the oppreſſed Europeans, their hiſtory is peculiarly intereſting.

435. *Settlements of North America, in chronological Order.*] North America was diſcovered in the reign of Henry VII. a period when the arts and ſciences had made very conſiderable progreſs in Europe. The fame which Columbus had acquired by his firſt diſcoveries on this weſtern continent, ſpread through Europe, and inſpired many with the ſpirit of enterprize. As early as 1496, four years only after the firſt diſcovery of America, John Cabot, a Venetian, obtained a commiſſion from Henry VII. to diſcover unknown lands, and annex them to the crown.

In the ſpring he ſailed from England with two ſhips, carrying with him his three ſons. In this voyage, which was intended for China, he fell in with the north ſide of Terra Labrador, and coaſted northerly as far as the 67th degree of latitude.

1497.] The next year he made a ſecond voyage to America, with his ſon Sebaſtian, who afterwards proceeded in the diſcoveries which his father had begun, and diſcovered Bonaviſta, on the north-eaſt ſide of Newfoundland. Before his return he traverſed the coaſt from Davis's Straits to Cape Florida.

1502.]

1502.] Sebaſtian Cabot was this year at Newfoundland; and on his return brought three of the natives of that iſland to Henry VII.

1513.] In the ſpring of 1513, John Ponce ſailed from Porto Rico northerly, and diſcovered the continent in 30 degrees 8 minutes north latitude. He landed in ſpring, a ſeaſon when the country round was covered with verdure, and in full bloom. This circumſtance induced him to call the country FLORIDA, which, for many years, was the common name for North and South America.

In 1516, Sebaſtian Cabot and Thomas Pert explored the coaſt as far as Brazil, in South America.

This vaſt extent of country, the coaſt whereof was thus explored, remained unclaimed and unſettled by any European power, (except by the Spaniards in South America) for almoſt a century from the time of it's diſcovery.

1524.] It was not till the year 1524 that the French attempted diſcoveries on the American coaſt. Stimulated by his enterpriſing neighbours, Francis I. ſent John Verrazano, a Florentine, to America, for the purpoſe of making diſcoveries. He traverſed the coaſt from latitude 28° to 50° north. In a ſecond voyage, ſome time after, he was loſt.

1525.] The next year Stephen Gomez, the firſt Spaniard who went upon the American coaſt for diſcovery, ſailed from Groyn in Spain, to Cuba and Florida, thence northward to Cape Razo, in latitude 46 degrees north, in ſearch of a north-weſt paſſage to the Eaſt Indies.

1534.] In the ſpring of 1534, by the direction of Francis I. a fleet was fitted out at St. Malo's in France, with deſign to make diſcoveries in America. The command of this fleet was given to James Cartier. He arrived at Newfoundland in ſpring; thence he ſailed northerly; and on the day of the feſtival of St. Lawrence, he found himſelf in about latitude 48 degrees 30 minutes north, in the midſt of a broad gulf, which he named St. Lawrence. He gave the ſame name to the river which empties into it. In this voyage, he ſailed as far in north latitude as 51 degrees, expecting in vain to find a paſſage to China.

1535.] The next year he ſailed up the river St. Lawrence 300 leagues, to the great and ſwift *Fall*. He called the country New France; built a fort, in which he ſpent the winter, and returned in the following ſpring to France.

1542.] In 1542, Francis la Roche was ſent to Canada, by the French king, with three ſhips and 200 men, women, and children. They wintered there in a fort which they had built, and returned in the ſpring. About the year 1550, a large number of adventurers ſailed for Canada, but were never after heard of. In 1539, Ferdinand de Soto, with 900 men, beſides ſeamen, had ſailed from Cuba, having for his object the conqueſt of Florida, and arrived at Spirito Santo, hence he travelled northward 450 leagues from the ſea. Here he diſcovered a river a quarter of a mile wide, and 19 fathoms deep, on the banks of which he died, and was buried, in 1542.

In 1543, Alverdo, his ſucceſſor, built ſeven brigantines, and the year following embarked upon the river. In 17 days he proceeded down it 400 leagues, where he judged it to be 15 leagues wide. From

the largeneſs of the river at the place of his embarkation, he concluded it's ſource muſt have been at leaſt 400 leagues above, ſo that the whole length of the river, in his opinion, muſt have been more than 800 leagues. As he paſſed down the river, he found it opened by two mouths into the Gulf of Mexico. From theſe circumſtances, it appears probable, that this river, ſo early diſcovered, was the one which is now called the *Miſſiſſippi*.

1549.] This year Henry VII. granted a penſion for life to Sebaſtian Cabot, in conſideration of the important ſervices he had rendered to the kingdom by his diſcoveries in America.

1562.] The admiral of France, Chatillon, early in this year, ſent out a fleet under the command of John Ribalt. He arrived at Cape Francis on the coaſt of Florida, near which, he diſcovered and entered a river, which he called May river. It is thought probable that this river was the ſame which is now called St. Mary's, which forms a part of the ſouthern boundary of the United States. As he coaſted northward, he diſcovered eight other rivers, one of which he called Port Royal, and ſailed up it ſeveral leagues. On one of the rivers he built a fort, and called it *Charles*, in which he left a colony, under the direction of a captain Albert. The ſeverity of Albert's meaſures, excited a mutiny, in which he was ſlain.

In 1564, Chatillon ſent Rene Laudonier, with three ſhips, to Florida. In ſummer he arrived at the river *May*, on which he built a fort, and, in flattery of the king, Charles IX. he called it CAROLINA.

This year Ribalt arrived at Florida the ſecond time, with a fleet of ſeven veſſels, to recruit the colony, which, two years before, he had left under the direction of Albert.

In the autumn following, Pedro Melandes, with ſix Spaniſh ſhips, purſued Ribalt up the river on which he had ſettled, and, overpowering him in numbers, maſſacred him and his whole company. Melandes, having, in his way, taken poſſeſſion of the country, built three forts, and left them garriſoned with 1200 ſoldiers. Laudonier and his colony, on May River, receiving information of the fate of Ribalt, took the alarm, and eſcaped to France.

1567] A fleet of three ſhips was this year ſent from France to Florida, under the command of Dominique de Gourges. The object of this expedition was, to diſpoſſeſs the Spaniards of that part of Florida which they had cruelly and unjuſtifiably ſeized three years before. He arrived on the coaſt of Florida in 1568, and made a ſucceſsful attack upon the forts. The recent cruelty of Melandes and his company excited revenge in the breaſt of Gourges, and roufed the vindictive principle of retaliation. He took the forts; put moſt of the Spaniards to the ſword; and, having burned and demoliſhed all their fortreſſes, returned to France. During the fifty years next after this event, the French enterprized no ſettlements in America.

1576.] Frobiſher was ſent this year to find out a north-weſt paſſage to the Eaſt Indies. The firſt land which he made on the coaſt was a Cape, which, in flattery of the queen, he called *Queen Elizabeth's Foreland*. In coaſting northerly, he diſcovered the ſtraits which bear his

his name. He profecuted his ſearch for a paſſage into the Weſtern Ocean, till he was prevented by the ice, and then returned to England.

1579.] In 1579, Humphrey Gilbert, obtained a patent from Elizabeth, for lands not yet poſſeſſed by any Chriſtian prince, provided he would take poſſeſſion within ſix years. With this encouragement, he ſailed for America, and, in 1583, anchored in Conception Bay. Afterward he diſcovered and took poſſeſſion of St. John's harbour, and the country ſouth. In purſuing his diſcoveries, he loſt one of his ſhips on the ſhoals of Sablon, and, on his return home, a ſtorm overtook him, in which he was loſt, and the intended ſettlement was prevented.

1584.] This year two patents were granted by the queen, Elizabeth, one to Adrian Gilbert, the other to Walter Raleigh, for lands not poſſeſſed by any Chriſtian prince. By the direction of Walter, two ſhips were fitted and ſent out under the command of Philip Amidas and Arthur Barlow. In ſummer they arrived on the coaſt, anchored in a harbour ſeven leagues weſt of the Roanoke, took poſſeſſion of the country in a formal manner, and, in flattery of the unmarried Elizabeth, called it *Virginia*. Till this time, the country was known by the general name of *Florida*. After this VIRGINIA became the common name for all North America.

1585.] The next year, Walter Raleigh ſent Richard Greenville to America, with ſeven ſhips. He arrived at Wococon Harbour in ſummer. Having ſtationed a colony of more than a hundred people at Roanoke, under the direction of Ralph Lane, he coaſted north-eaſterly as far as Cheſapeak Bay, and returned to England.

The colony under Lane endured extreme hardſhips, and, it is thought, muſt have periſhed, had not Francis Drake returned to Virginia, and carried them to England, after having made ſeveral conqueſts for the queen in the Weſt Indies, and other places.

A fortnight after, Richard Greenville arrived with new recruits; and, although he did not find the colony which he had before left, and knew not but they had periſhed, he had the raſhneſs to leave 50 men at the ſame place.

1587.] The year following, Raleigh ſent another company to Virginia, under a governor, White, with a charter, and twelve aſſiſtants. In ſummer he arrived at Roanoke. Not one of the ſecond company remained. He determined, however, to riſk a third colony. Accordingly he left 115 people at the old ſettlement, and returned to England.

1590.] In the yeat 1590, White came over to Virginia with ſupplies and recruits for his colony: but, to his great grief, not a man was to be found. They had all famiſhed with hunger, or been killed by the Indians.

1602.] In the ſpring of this year, Bartholomew Goſnold, with 32 perſons, made a voyage to North Virginia, and diſcovered and gave names to Cape Cod, Martha's Vineyard, and Elizabeth Iſland, and to Dover Cliff. Elizabeth Iſland was the place which they fixed for their firſt ſettlement. But the courage of thoſe who were to have tarried failing, they all went on board, and returned to England. All the

attempts to ſettle this continent, which were made by the Dutch, French, and Engliſh, from it's diſcovery till this time, a period of 110 years, proved ineffectual: the Spaniards only, of all the European nations, had been ſucceſsful. There is no account of there having been one European family, at this time, in all the vaſt extent of coaſt from Florida to Greenland.

1603.] Martin Pring and William Brown, were this year ſent by Walter Raleigh, with two ſmall veſſels, to make diſcoveries in North Virginia. They came upon the coaſt, which was broken with a multitude of iſlands, in latitude 43 degrees 30 minutes north. They coaſted northward to Cape Cod Bay; thence round the Cape into a commodious harbour in latitude 41 degrees 25 minutes, where they went aſhore, and tarried ſeven weeks, during which time they loaded one of their veſſels with ſaſſafras, and returned to England.

Bartholomew Gilbert, in a voyage to South Virginia, in ſearch of the third colony, which had been left there by the governor, White, in 1587, having touched at ſeveral of the Weſt-India Iſlands, landed near Cheſapeak Bay, where, in a ſkirmiſh with the Indians, he and four of his men were ſlain. The reſt, without any further ſearch for the colony, returned to England.

The French, being at this time in a ſtate of tranquillity, in conſequence of the edict of Nantz in favour of the Proteſtants, paſſed by Henry IV. in 1598, and of the peace with Philip, King of Spain and Portugal, were induced to purſue their diſcoveries in America. Accordingly the king ſigned a patent, in favour of De Mons, in 1603, of all the country from the 40th to the 46th degree of north latitude, under the name of *Acadia*. The next year, 1604, De Mons ranged the coaſt from St. Lawrence to Cape Sable, and ſo round to Cape Cod.

1605.] In ſpring 1605, George Iſland and Pentecoſt Harbour were diſcovered by George Weymouth, who took with him to England five of the natives.

1606.] In the ſpring of this year, James I. by patent, divided Virginia into two colonies. The *ſouthern* included all lands between the 34th and 41ſt degrees of north latitude. This was ſtyled the *firſt colony*, under the name of South Virginia, and was granted to the London Company. The *northern*, called the *ſecond colony*, and known by the general name of North Virginia, included all lands between the 38th and 45th degrees of north latitude, and was granted to the Plymouth company. Each of theſe colonies had a council of thirteen men to govern them. To prevent diſputes about territory, the colonies were prohibited to plant within an hundred miles of each other. There appears to be an inconſiſtency in theſe grants, as the lands lying between the 38th and 41ſt degrees, are covered by both patents.

Both the London and Plymouth companies enterprized ſettlements within the limits of their reſpective grants. With what ſucceſs will now be mentioned.

Piercy, brother of the Earl of Northumberland, in the ſervice of the London Company, went over with a colony to Virginia, and diſcovered Powhatan, now James River. In the mean time the Plymouth Company ſent Henry Challons, in a veſſel of fifty-five tons, to plant

plant a colony in North Virginia; but, in his voyage, he was taken by a Spaniſh fleet, and carried to Spain.

1607.] The London Company this ſpring ſent Chriſtopher Newport with three veſſels to South Virginia. He entered Cheſapeak Bay, and landed, and, ſoon after, gave to the moſt ſouthern point the name of *Cape Henry*, which it ſtill retains. Having elected Edward Wingfield preſident for the year, they next day landed all their men, and began a ſettlement on James-River, at a place which they called James-Town. This is the firſt town that was ſettled by the Engliſh in North America. Newport then ſailed for England, leaving with the preſident one hundred and four perſons, and ſoon after this died Bartholomew Goſnold, the firſt projector of this ſettlement, and one of the council. The following winter, James-Town was burnt.

During this time the Plymouth Company fitted out two ſhips under the command of Rawley Gilbert. They ſailed for North Virginia, with one hundred planters, and George Popham for their preſident. They arrived in ſummer, and ſettled about nine or ten leagues to the ſouthward of the mouth of Sagadahok river. A great part of the colony, however, diſheartened by the ſeverity of the winter, returned to England, leaving their preſident, Popham, with only forty-five men.

It was in the fall of this year that the Puritans, who afterwards ſettled at Plymouth in New England, removed from the north of England to Holland, to avoid the cruelties of perſecution.

This year, alſo, a ſmall company of merchants at Dieppe and St. Malo's, founded Quebec, or rather the colony which they ſent, built a few huts there, which did not take the form of a town until the reign of Louis XIV.

1608.] The Sagadahok colony ſuffered great hardſhips after the departure of their friends in December. In the depth of winter, which was extremely cold, their ſtore-houſe caught fire, and was conſumed, with moſt of their proviſions and lodgings. Soon after this, their preſident died, and Rawley Gilbert was appointed to ſucceed him.

The Chief Juſtice, Popham, made every exertion to keep this colony alive, by repeatedly ſending them ſupplies. But the circumſtance of his death, which happened this year, together with that of the preſident Gilbert's being called to England, to ſettle his affairs, broke up the colony, and they all returned with him to England.

The unfavourable reports, which theſe firſt unſucceſsful adventurers propagated reſpecting the country, prevented any further attempts to ſettle North Virginia for ſeveral years after.

1609.] The London Company laſt year ſent two ſhips, and one hundred and twenty perſons, to James-Town; and this year John Smith, afterwards preſident, arrived on the coaſt of South Virginia, and by ſailing up a number of the rivers, diſcovered the interior country. Chriſtopher Newport alſo arrived with ſeventy perſons, which increaſed the colony to two hundred.

The Puritans, who had ſettled at Amſterdam, removed this year to Leyden, where they remained more than eleven years, till a part of them came over to New England.

The council for South Virginia having reſigned their old commiſſion, requeſted and obtained a new one; in conſequence of which they appointed Thomas Weſt, De la War, general of the colony; Thomas Gates, his lieutenant; George Somers, admiral; Thomas Dale, high marſhal; Ferdinand Wainman, general of the horſe; and Newport, vice admiral.

Gates, Newport, and Somers, with ſeven ſhips and a ketch and pinnace, having five hundred people on board, men, women, and children, ſailed from Falmouth for South Virginia. In croſſing the Bahama Gulf, the fleet was overtaken by a violent ſtorm, and ſeparated. Somers ran his ſhip aſhore on one of the Bermudas Iſlands, which, from this circumſtance, have been called the Somer Iſlands. The people on board, one hundred and fifty in number, all got ſafe on ſhore, and there remained until the following ſpring. The remainder of the fleet arrived at Virginia in ſummer. The colony was now increaſed to five hundred men. John Smith, then preſident, a little before the arrival of the fleet, had been very badly burnt, by means of ſome powder which had accidentally caught fire. This circumſtance, together with the oppoſition he met with from thoſe who had lately arrived, induced him to leave the colony and return to England, which he accordingly did in the autumn. Francis Weſt, his ſucceſſor in office, ſoon followed him, and George Piercy was elected preſident.

1610.] The year following, the South Virginia, or London company, ſealed a patent to De la War, conſtituting him Governor and Captain general of South-Virginia. He ſoon after embarked for America, with one hundred and fifty men, in three ſhips.

The people, who, the year before, had been ſhipwrecked on the Bermudas Iſlands, had employed themſelves during the winter, under the direction of Thomas Gates, George Somers, and Chriſtopher Newport, in building a ſloop to tranſport themſelves to the continent. They embarked for Virginia in ſpring, with about one hundred and fifty perſons on board, and landed at James-Town, leaving two of their men behind, who choſe to ſtay. Finding the colony, which at the time of John Smith's departure, conſiſted of five hundred, now reduced to ſixty, and thoſe few in a diſtreſſed and wretch ſituation, they with one voice reſolved to return to England; and for this purpoſe, the whole colony repaired on board their veſſels, broke up the ſettlement, and ſailed down the river on their way to their native country.

De la War, who had embarked for James-Town, met them the day after they had ſailed, and perſuaded them to return with him. The government of the colony devolved upon De la War. And from this time we may date the effectual ſettlement of Virginia.

In 1613, John Rolfe was married to Pocahontas, the daughter of Powhatan, the famous Indian chief. This connection, which was very agreeable, both to the Engliſh and Indians, was the foundation of a friendly and advantageous commerce between them.

As early as the year 1608, or 1609, Henry Hudſon, an Engliſhman, under a commiſſion from the king his maſter, diſcovered Long Iſland, New York, and the river which ſtill bears his name, and afterwards ſold the country, or rather his aſſumed right, to the Dutch.

Their

Their writers, contend that Hudſon was ſent out by the Eaſt India company in 1609, to diſcover a northweſt paſſage to China; and that having firſt diſcovered Delaware Bay, he came and penetrated Hudſon's river as far as latitude forty-three degrees. It is ſaid, however, that there was a ſale, and that the Engliſh objected to it, though for ſome time they neglected to oppoſe the Dutch ſettlement of the country.

1610.] In 1610, Hudſon ſailed again to this country, then called by the Dutch, New Netherlands. Four years after, the States-General granted a patent to ſundry merchants for an excluſive trade on the North river, who the ſame year, 1614, built a fort on the weſt ſide, near Albany. From this time we may date the ſettlement of New York.

Conception Bay, on the iſland of Newfoundland, was ſettled in the year 1610, by about forty planters under John Guy, to whom James I. had given a patent of incorporation.

Champlain, a Frenchman, had begun a ſettlement at Quebec, 1608. St. Croix, Mount Manſel, and Port Royal were ſettled about the ſame time. Theſe ſettlements remained undiſturbed till 1613, when the Virginians, hearing that the French had ſettled within their limits, ſent troops to diſlodge them. For this purpoſe they ſailed to Sagadahok, took their forts at Mount Manſel, St. Croix, and Port Royal, with their veſſels, ordnance, cattle, and proviſions, and carried them to James-Town in Virginia. Quebec was left in poſſeſſion of the French.

1614.] This year John Smith, with two ſhips, and forty-five men and boys, made a voyage to North Virginia, to make experiments upon a gold and copper mine. His orders were, to fiſh and trade with the natives, if he ſhould fail in his expectations with regard to the mine. To facilitate this buſineſs, he took with him Tantum, an Indian, perhaps the one that Weymouth carried to England in 1605. In ſpring he reached the Iſland of Monahigan, in latitude forty-three degrees thirty minutes. Here Smith was directed to ſtay and keep poſſeſſion, with ten men, for the purpoſe of making a trial of the whaling buſineſs, but being diſappointed in this, he built ſeven boats, in which thirty-ſeven men made a very ſucceſsful fiſhing voyage. He then ſet out with eight men only, in a ſmall boat, coaſted from Penobſcot to Sagadahok, Acociſco, Paſſataquack, Tragabizanda, now called Cape Ann, thence to Acomak, where he ſkirmiſhed with ſome Indians; thence to Cape Cod, where he ſet his Indian, Tantum, aſhore and left him, and returned to Monahigan. In this voyage he found two French ſhips in the Bay of Maſſachuſetts; they had come there ſix weeks before, and, during that time, had been trading very advantageouſly with the Indians. It was conjectured that there were, at this time, three thouſand Indians upon the Maſſachuſetts Iſlands.

In ſummer, Smith embarked for England in one of the veſſels, leaving the other under the command of Thomas Hunt, to equip for a voyage to Spain. After Smith's departure, Hunt perfidiouſly allured twenty Indians (one of whom was Squanto, afterwards ſo ſerviceable to the Engliſh) to come on board his ſhip at Patuxit, and ſeven more at Nauſit, and carried them to the Iſland of Malaga, where he ſold them

them for twenty pounds each, to be ſlaves for life. This conduct, excited in the breaſts of the Indians ſuch an inveterate hatred of the Engliſh, that, for many years after, all commercial intercourſe with them was rendered exceedingly dangerous.

When Smith arrived at London, he drew a map of the country, and called it New England. From this time North Virginia aſſumed the name of New England, and the name Virginia was confined to the ſouthern colony.

Between the years 1614 and 1620, ſeveral attempts were made by the Plymouth company to ſettle New-England, but by various means they were all rendered ineffectual. During this time, however, an advantageous trade was carried on with the natives.

1617.] In the year 1617, the Puritans at Leyden meditated a removal to America. Various difficulties intervened to prevent the ſucceſs of their deſigns, until the year 1620, when a part of the congregation came over and ſettled at Plymouth. At this time commenced the ſettlement of New-England.

The next year after the ſettlement of Plymouth, John Maſon obtained of the Plymouth council, a grant of the preſent ſtate of New-Hampſhire. Two years after, under the authority of this grant, a ſmall colony ſettled near the mouth of Piſcataqua river. From this period we may date the ſettlement of New-Hampſhire.

1627.] In 1627, a colony of Swedes and Fins came over and landed at Cape Henlopen; and afterwards purchaſed of the Indians the land from Cape Henlopen to the Falls of Delaware, on both ſides of the river, which they called New-Swedeland Stream. On this river they built ſeveral forts, and made ſettlements.

1628.] In 1628, the council for New-England ſold to Henry Roſwell, and five others, a large tract of land, lying round Maſſachuſett's Bay, and John Endicot, with his wife and company, came over and ſettled at Naumkeag, now called Salem. This was the firſt Engliſh ſettlement which was made in Maſſachuſett's Bay. Plymouth, indeed, which is now included in the Commonwealth of Maſſachuſetts, was ſettled eight years before, but at this time it was a ſeparate colony, under a diſtinct government, and continued ſo until the ſecond charter of Maſſachuſetts was granted by William and Mary, in 1691, by which Plymouth, the Province of Main and Sagadahok were annexed to Maſſachuſetts.

1633.] In the reign of Charles I. the Lord Baltimore, a Romaniſt, applied for, and obtained, a grant of a tract of land upon Cheſapeak Bay, about one hundred and forty miles long and one hundred and thirty broad. Soon after this, in conſequence of the rigour of the laws of England againſt the Papiſts, Baltimore, with a number of his perſecuted brethren, came over and ſettled it, and in flattery of Queen Henrietta Maria, they called it Maryland. This colony had the honour of giving the firſt example of religious toleration in America.

The firſt grant of Connecticut was made by Robert, Earl of Warwick, preſident of the council of Plymouth, to the Lord Say and Seal, Lord Brook and others, in the year 1631. In conſequence of ſeveral ſmaller grants made afterwards by the patentees to particular perſons,

perſons, Fenwick made a ſettlement at the mouth of Connecticut river, and called it Saybrook. Four years after, a number of people from Maſſachuſett's Bay came and began ſettlements at Hartford, Wethersfield, and Windſor on Connecticut river. Thus commenced the Engliſh ſettlement of Connecticut.

Rhode Iſland was firſt ſettled in conſequence of religious perſecution. Roger Williams, who was among thoſe who early came over to Maſſachuſetts, not agreeing with ſome of his brethren in ſentiment, was baniſhed the colony, and went with twelve others, his adherents, and ſettled at Providence in 1635. From this beginning aroſe the colony, now ſtate of Rhode Iſland.

1664.] In 1664, Charles the Second granted to the Duke of York, what is now called New-Jerſey, then a part of a large tract of country by the name of New-Netherlands. Some parts of New-Jerſey were ſettled by the Dutch as early as about 1615.

1662.] In the year 1662, Charles the Second granted to Edward, Earl of Clarendon, and ſeven others, almoſt the whole territory of the three Southern States, North and South Carolinas and Georgia. Two years after he granted a ſecond charter, enlarging their boundaries. The proprietors, by virtue of authority veſted in them by their charter, engaged John Locke to frame a ſyſtem of Laws for the government of their intended colony. Notwithſtanding theſe preparations, no effectual ſettlement was made until the year 1669, (though one was attempted in 1667) when William Sayle came over with a colony, and fixed on a neck of land between Aſhly and Cooper Rivers. Thus commenced the ſettlement of Carolina, which then included the whole territory between the 29th and 36th½ degrees, north latitude, together with the Bahama Iſlands, lying between latitude 22 and 27 degrees north.

1681.] The royal charter for Pennſylvania was granted to William Penn, 1681. The firſt colony came over the next year, and ſettled under the proprietor, who acted as governor.

The proprietary government in Carolina, was attended with ſo many inconveniences, and occaſioned ſuch violent diſſentions among the ſettlers, that the Parliament in Great Britain was induced to take the province under their immediate care. The proprietors (except the Lord Granville) accepted of £22,500 ſterling, from the crown for the property and juriſdiction. This agreement was ratified by act of Parliament in 1729. A clauſe in this act reſerved to Granville his eighth ſhare of the property and arrears of quit-rents, which continued veſted in his family till the revolution in 1776. His ſhare made a part of the preſent ſtate of North Carolina. About the year 1729, the extenſive territory belonging to the proprietors, was divided into North and South Carolinas. They remained ſeparate royal governments until they became independent States.

For the relief of poor indigent people of Great-Britain and Ireland, and for the ſecurity of Carolina, a project was formed for planting a colony between the rivers Savannah and Alatamaha. Accordingly, application being made to George II. he iſſued letters patent, bearing date June 9th, 1732, for legally carrying into execution the plan.

In

In flattery of the king, who greatly encouraged the plan, they called the new province Georgia. Twenty-one truſtees were appointed to conduct the affairs relating to the ſettlement of the province. The November following, one hundred and fifteen perſons, one of whom was James Oglethorpe, embarked for Georgia, where they arrived, and landed at Yamacraw. In exploring the country, they found an elevated pleaſant ſpot of ground on the bank of a navigable river, upon which they marked out a town, and from the Indian name of the river which paſſed by it, called it Savannah. From this period, we may date the ſettlement of Georgia.

Kentucky was firſt diſcovered by James Macbride, and ſome others who were in company with him, in the year 1754. Daniel Boon explored it in 1769.

Four years after Boon and his family, with five other families, who were joined by forty men from Powle's valley, began the ſettlement of Kentucky, which is now one of the moſt growing colonies, perhaps, in the world.

The tract of country, called Vermont, before the late war, was claimed both by New-York and New-Hampſhire. When hoſtilities commenced between Great-Britain and the Colonies, the inhabitants conſidering themſelves as in a ſtate of nature, and not within any legal juriſdiction, aſſociated and formed for themſelves a conſtitution of civil government. Since that time, 1777, Vermont has, to all intents and purpoſes, been a ſovereign and independent State.

The extenſive tract of country, lying northweſt of the Ohio River, within the limits of the United States, was erected into a ſeparate temporary government, by an ordinance of Congreſs, paſſed in 1787.

This is a ſummary view of the firſt diſcoveries and progreſſive ſettlement of North America, in their chronological order.—The following recapitulation will comprehend the whole in one view.

Names of places.	*When ſettled.*	*By whom.*
Quebec,	1608	By the French.
Virginia,		By De la War.
Newfoundland,	1610	By John Guy.
New-York, New-Jerſey,	about 1616	By the Dutch.
Plymouth,	1620	By the Puritans
New-Hampſhire,	1623	By a ſmall Engliſh colony near the mouth of Piſcataqua river.
Delaware, Pennſylvania,	1627	By the Swedes and Fins.
Maſſachuſett's Bay,	1628	By John Endicot and company.
Maryland,	1633	By Baltimore, with a colony of Roman Catholics.
Connecticut,	1635	By Fenwick, at Saybrook, near the mouth of Connecticut river.
Rhode-Iſland,	1635	By Roger Williams, and his perſecuted brethren.

Names

Names of places.	*When ſettled.*	*By whom.*
New-Jerſey,	1664	Granted to the Duke of York by Charles II. and made a diſtinct government, and ſettled ſome time before this by the Engliſh.
South-Carolina,	1669	By William Sayle.
Pennſylvania.	1682	By William Penn, with a colony of Quakers.
North-Carolina,	about 1728	Erected into a ſeparate government, ſettled before by the Engliſh.
Georgia,	1732	By James Oglethorpe.
Kentucky,	1773	By Daniel Boon.
Vermont,	1777	By emigrants from Connecticut, and other parts of New-England.
Territory, N. W. of Ohio river.	1787	By the Ohio and other compaines.

The above dates are from the periods, when the firſt permanent ſettlements were made.

436. *American Revolution.*] Before the revolution, there were three kinds of government eſtabliſhed in the Britiſh American Colonies. The firſt was a charter government, by which the powers of legiſlation were veſted in a governor, council, and aſſembly, choſen by the people. Of this kind were the governments of Connecticut and Rhode-Iſland. The ſecond was a proprietary government, in which the proprietor of the province was governor; although he generally reſided abroad, and adminiſtered the government by a deputy of his own appointment; the aſſembly only being choſen by the people. Such were the governments of Pennſylvania and Maryland; and originally of New-Jerſey and Carolina. The third kind was that of royal government, where the governor and council were appointed by the crown, and the aſſembly by the people. Of this kind were the governments of New-Hampſhire, Maſſachuſetts, New-York, New-Jerſey, after the year 1702; Virginia, the Carolinas, after the reſignation of the proprietors in 1728; and Georgia. This variety of governments created different degrees of dependence on the crown. To render laws valid, it was conſtitutionally required that they ſhould be ratified by the king; but this formality was often diſpenſed with, eſpecially in the charter governments.

At the beginning of the laſt war of George II. with France, commiſſioners from many of the colonies had aſſembled at Albany, and propoſed that a great council ſhould be formed by deputies from the ſeveral colonies, which, with a general governor to be appointed by the crown, ſhould be empowered to take meaſures for the common ſafety, and to raiſe money for the execution of their deſigns. This propoſal was not reliſhed by the Britiſh miniſtry; but in place of this plan, it was propoſed, that the governors of the colonies, with the aſſiſtance of one

or

or two of their council, ſhould aſſemble and concert meaſures for the general defence, erect forts, levy troops, and draw on the treaſury of England for monies that ſhould be wanted; but the treaſury to be reimburſed by a tax on the colonies, to be laid by the Engliſh parliament. To this plan, which would imply an avowal of the right of parliament to tax the colonies, the provincial aſſemblies objected with unſhaken firmneſs, and the war was carried on by requiſitions on the colonies for ſupplies of men and money, or by voluntary contributions.

But no ſooner was peace concluded, than the Engliſh parliament reſumed the plan of taxing the colonies; and to juſtify their attempts, ſaid, that the money to be raiſed, was to be appropriated to defray the expence of defending them in the late war.

The firſt attempt to raiſe a revenue in America appeared in the memorable ſtamp act, paſſed in 1765; by which it was enacted, that certain inſtruments of writing, as bills, bonds, &c. ſhould not be valid in law, unleſs drawn on ſtamped paper, on which a duty was laid. No ſooner was this act publiſhed in America, than it raiſed a general alarm. The people were filled with apprehenſions at an act, which they ſuppoſed an attack on their conſtitutional rights. The colonies petitioned the king and parliament for a redreſs of the grievance, and formed aſſociations for the purpoſe of preventing the importation and uſe of Britiſh manufactures, until the act ſhould be repealed. The news of the repeal was received in the colonies with univerſal joy, and the trade between them and Great-Britain was renewed on the moſt liberal footing.

The parliament, by repealing this obnoxious act, did not intend to lay aſide the ſcheme of raiſing a revenue in the colonies, but merely to change the mode. Accordingly, the next year, they paſſed an act, laying a certain duty on glaſs, tea, paper, and painter's colours; articles which were much wanted, and not manufactured, in America. This act kindled the reſentment of the Americans, and excited a general oppoſition to the meaſure; ſo that parliament thought proper, in 1770, to take off theſe duties, except three-pence a pound on tea. Yet this duty, however trifling, kept alive the jealouſy of the coloniſts, and their oppoſition to parliamentary taxation continued and increaſed. The inconvenience of paying the duty was not the ſole nor principal cauſe of the oppoſition; it was the principle, which, once admitted, would have ſubjected the colonies to unlimited parliamentary taxation, without the privilege of being repreſented. The right, abſtractly conſidered, was denied; and the ſmalleſt attempt to eſtabliſh the claim, by precedent, was uniformly reſiſted. The Americans could not be deceived, as to the views of parliament; for the repeal of the ſtamp-act was accompanied with an unequivocal declaration, "that the parliament had a right to make laws of ſufficient validity to bind the colonies in all caſes whatſoever."

The colonies therefore entered into meaſures to encourage their own manufactures and home productions, and to retrench the uſe of foreign ſuperfluities; while the importation of tea was prohibited. In the royal and proprietary governments, the governors and people were in a ſtate of

of continual warfare. Aſſemblies were repeatedly called, and ſuddenly diſſolved. While ſitting, the aſſemblies employed the time in ſtating grievances and framing remonſtrances. To inflame theſe diſcontents, an act of parliament was paſſed, ordaining that the governors and judges ſhould receive their ſalaries of the crown; thus making them independent of the provincial aſſemblies, and removeable only at the pleaſure of the king.

About this time, the diſcovery and publication of ſome private confidential letters, written by the royal officers in Boſton, to perſons in office in England, ſerved to confirm the apprehenſions of the Americans, with reſpect to the deſigns of the Britiſh government. It was now made obvious, that more effectual meaſures would be taken to eſtabliſh the ſupremacy of the Britiſh Parliament over the Colonies. The letters recommended deciſive meaſures, and the writers were charged, by the exaſperated Americans, with betraying their truſt, and the people they governed.

As the reſolutions of the Colonies, not to import or conſume tea, had, in a great meaſure, deprived the Engliſh government of a revenue from this quarter, the parliament formed a ſcheme of introducing tea into America, under cover of the Eaſt-India Company. For this purpoſe, an act was paſſed, enabling the Company to export all ſorts of teas, duty free, to any place whatever. The Company departed from their uſual mode of buſineſs, and became their own exporters. Several ſhips were freighted with teas, and ſent to the American colonies, and factors were appointed to receive and diſpoſe of their cargoes.

The Americans, determined to oppoſe the revenue ſyſtem of the Engliſh parliament in every poſſible ſhape, conſidered the attempt of the Eaſt-India Company to evade the reſolutions of the colonies, and diſpoſe of teas in America, as an indirect mode of taxation, ſanctioned by the authority of Parliament. The people aſſembled in various places, and in the large commercial towns took meaſures to prevent the landing of the teas. Committees were appointed, and furniſhed with extenſive powers to inſpect merchants' books, to propoſe teſts, and make uſe of other expedients to fruſtrate the deſigns of the Eaſt-India Company. The ſame ſpirit pervaded the people from New-Hampſhire to Georgia. In ſome places, the conſignees of the teas were intimidated ſo far as to relinquiſh their appointments, or to enter into engagements not to act in that capacity. The cargo ſent to South Carolina was ſtored, the conſignees being reſtrained from offering the tea for ſale. In other provinces, the ſhips were ſent back without diſcharging their cargoes.

But in Boſton the tea was actually deſtroyed. Senſible that no legal meaſures could prevent it's being landed, and that if once landed, it would be diſpoſed of; a number of men in diſguiſe, in the latter end of 1773, entered the ſhips, and threw overboard three hundred and forty cheſts of it, which was the proportion belonging to the Eaſt-India Company. No ſooner did the news of this deſtruction of the tea reach Great-Britain, than the parliament determined to puniſh the people of that town. On the king's laying the American papers before

before them, a bill was brought in, and paſſed, "to diſcontinue the landing and diſcharging, lading and ſhipping of goods, wares, and merchandizes at the town of Boſton, or within the harbour."

This act, called the Boſton Port Bill, threw the inhabitants of Maſſachuſets into the greateſt conſternation. The town of Boſton paſſed a reſolution, expreſſing their ſenſe of this oppreſſive meaſure, and a deſire that all the colonies would concur to ſtop all importation from Great Britain. Moſt of the colonies entered into ſpirited reſolutions, on this occaſion, to unite with Maſſachuſetts in a firm oppoſition to the meaſures of the parliament; and the day on which the Port Bill was to take place, was appointed to be kept as a day of humiliation, faſting, and prayer throughout the colonies, to ſeek the divine direction and aid, in that critical and gloomy juncture of affairs.

During the height of the conſternation and confuſion which the Boſton Port Bill occaſioned, at the very time when a town-meeting was ſitting to conſider of it, the General, Gage, who had been appointed to the government of Maſſachuſetts, arrived in the harbour. His arrival, however, did not allay the popular ferment, or check the progreſs of the meaſures then taking, to unite the Colonies in oppoſition to the oppreſſive act of parliament.

But the Port Bill was not the only act that alarmed the apprehenſions of the Americans. Determined to compel the province of Maſſachuſetts to ſubmit to their laws, parliament paſſed an act "for the better regulating of government in the province of Maſſachuſetts Bay." The object of this act was to alter the government, as it ſtood on the charter of King William, to take the appointment of the executive out of the hands of the people, and place it in the crown; thus making even the judges and ſheriffs dependent on the king, and removeable only at his pleaſure.

This act was ſoon followed by another, which ordained, that any perſon, indicted for murder, or other capital offence, committed in aiding the magiſtrates in executing the laws, might be ſent by the governor either to another colony, or to Great-Britain, for his trial.

This was ſoon followed by the Quebec Bill; which extended the bounds of that province, and granted many privileges to the Roman Catholics. The object of this bill was thought to be, to ſecure the attachment of that province to the crown of England, and prevent it's joining the colonies in their reſiſtance of the laws of parliament.

But theſe meaſures did not intimidate the Americans. On the other hand, they ſerved to confirm their former apprehenſions of the evil deſigns of government, and to unite the colonies in their oppoſition. A correſpondence of opinion, with reſpect to the unconſtitutional acts of parliament, produced a uniformity of proceedings in the colonies. The people generally concurred in a propoſition for holding a congreſs by deputation from the ſeveral colonies, in order to concert meaſures for the preſervation of their rights. Deputies were accordingly appointed, and met at Philadelphia, in the autumn of 1774.

In this firſt congreſs, the proceedings were cool, deliberate, and loyal; but marked with unanimity and firmneſs. Their firſt act was a de-

a declaration, or ſtate of their claims as to the enjoyment of all the rights of Britiſh ſubjects, and particularly that of taxing themſelves excluſively, and of regulating the internal police of the colonies. They alſo drew up a petition to the king, complaining of their grievances, and praying for a repeal of the unconſtitutional and oppreſſive acts of parliament. They ſigned an aſſociation, to ſuſpend the importation of Britiſh goods, and the exportation of American produce, until their grievances ſhould be redreſſed. They ſent an addreſs to the inhabitants of Great-Britain, and another to the people of America; in the former of which they enumerated the oppreſſive ſteps of parliament, and called on their Britiſh brethren not to aid the miniſtry in enſlaving their American ſubjects; and in the latter, they endeavoured to confirm the people in a ſpirited and unanimous determination to defend their conſtitutional rights.

In the mean time, every thing in Maſſachuſetts wore the appearance of oppoſition by force. A new council for the governor had been appointed by the crown. New judges were appointed, and attempted to proceed in the execution of their office. But the juries refuſed to be ſworn under them; in ſome counties, the people aſſembled to prevent the courts from proceeding to buſineſs; and in Berkſhire they ſucceeded.

In this ſituation of affairs, the day for the annual muſter of the militia approached. The general Gage, apprehenſive of ſome violence, had the precaution to ſeize the magazines of ammunition and ſtores at Cambridge and Charleſton, and lodged them in Boſton. This meaſure, with the fortifying of that neck of land which joins Boſton to the main land at Roxbury, cauſed an univerſal alarm and ferment. Several thouſand people aſſembled, and it was with difficulty they could be reſtrained from falling upon the Britiſh troops.

On this occaſion, an aſſembly of delegates from all the towns in Suffolk county was called; and ſeveral ſpirited reſolutions were agreed to. Theſe reſolutions were prefaced with a declaration of allegiance, but they declared that the late acts of parliament, and the proceedings of General Gage, were glaring infractions of their rights and liberties, which their duty called them to defend by all lawful means.

This aſſembly remonſtrated againſt the fortification of Boſton Neck, and againſt the Quebec Bill; and reſolved upon a ſuſpenſion of commerce, an encouragement of arts and manufactures, the holding of a provincial congreſs, and a ſubmiſſion to the meaſures which ſhould be recommended by the continental congreſs. They recommended that the collectors of taxes ſhould not pay any money into the treaſury, without further orders; they alſo recommended peace and good order, as they meant to act merely upon the defenſive.

In anſwer to their remonſtrance, Gage aſſured them that he had no intention to prevent the free egreſs and regreſs of the inhabitants to and from the town of Boſton, and that he would not ſuffer any perſon under his command to injure the perſon or property of any of his majeſty's ſubjects.

Previous to this, a general aſſembly had been ſummoned to meet; and notwithſtanding the writs had been countermanded by the gover-

nor's proclamation, on account of the violence of the times and the reſignation of ſeveral of the new counſellors, yet repreſentatives were choſen by the people who met at Salem, reſolved themſelves into a provincial congreſs, and adjourned to Concord.

The congreſs addreſſed the governor with a rehearſal of their diſtreſſes, and took the neceſſary ſteps for defending their rights. They regulated the militia, made proviſion for ſupplying the treaſury, and furniſhing the people with arms; and ſuch was the enthuſiaſm and union of the people, that the recommendations of the provincial congreſs had the force of laws.

Gage was incenſed at theſe meaſures—he declared, in his anſwer to the addreſs, that Britain could never harbour the black deſign of enſlaving her ſubjects, and publiſhed a proclamation, in which he inſinuated, that ſuch proceedings amounted to rebellion. He alſo ordered barracks to be erected for the ſoldiers; but he found difficulty in procuring labourers, either in Boſton or New-York.

In the beginning of 1775, the fiſhery bills were paſſed in parliament, by which the colonies were prohibited to trade with Great Britain, Ireland, or the Weſt-Indies, or to take fiſh on the Banks of Newfoundland.

In the diſtreſſes to which theſe acts of parliament reduced the town of Boſton, the unanimity of the colonies was remarkable in the large ſupplies of proviſion, furniſhed by the inhabitants of different towns from New-Hampſhire to Georgia, and ſhipped to the relief of the ſufferers.

Preparations began to be made, to oppoſe, by force the execution of theſe acts of parliament. The militia of the country were trained to the uſe of arms—great encouragement was given for the manufacture of gunpowder, and meaſures were taken to obtain all kinds of military ſtores.

In the ſpring of 1775 hoſtilities actually commenced; and in the ſame year the following proclamation and reply were iſſued.

LONDON.

By the King, a Proclamation for ſuppreſſing Rebellion and Sedition.

GEORGE R.

"WHEREAS many of our ſubjects, in divers parts of our colonies and plantations in North America, miſled by dangerous and ill-deſigning men, and forgetting the allegiance which they owe to the power that has protected and ſuſtained them, after various diſorderly acts committed in diſturbance of the public peace, to the obſtruction of lawful commerce, and to the oppreſſion of our loyal ſubjects carrying on the ſame, have at length proceeded to open and avowed rebellion, by arraying themſelves in a hoſtile manner, to withſtand the execution of the law, and traitorouſly preparing, ordering, and levying war againſt us: and whereas there is reaſon to apprehend ſuch rebellion hath been much promoted and encouraged by the traitorous correſpondence, counſel, and comfort of divers wicked and deſperate perſons within this realm: To the end therefore that none of our ſubjects may

neglect

neglect or violate their duty through any doubt or protection which the law will afford to their loyalty and zeal; we have thought fit, by and with all advice of our privy council, to iſſue our Royal Proclamation, hereby declaring, that not only all our officers civil and military, are obliged to exert their utmoſt endeavours to ſuppreſs ſuch rebellion, and to bring the traitors to juſtice; but that all our ſubjects of this realm and the dominions thereunto belonging are bound by law to be aiding and aſſiſting in the ſuppreſſion of ſuch rebellion, and to diſcloſe and make known all traitorous conſpiracies and attempts againſt our crown and dignity: and we do accordingly ſtrictly charge and command all officers, as well civil as military, and all other our obedient and loyal ſubjects, to uſe their utmoſt endeavours to withſtand and ſuppreſs ſuch rebellion, and to diſcloſe and make known all treaſons and traitorous conſpiracies which they ſhall know to be againſt us, our crown and dignity; and, for that purpoſe, that they tranſmit to one of our principal ſecretaries of ſtate, or other proper officer, due and full information of all perſons who ſhall be found carrying on correſpondence with, or in any manner aiding or abetting the perſons, now in open arms and rebellion againſt our government within any of our colonies and plantations in North-America, in order to bring to condign puniſhment the authors, perpetrators, and abettors of ſuch traitorous deſigns

"Given at our Court at St. James's, the twenty-third day of Auguſt, one thouſand ſeven hundred and ſeventy-five, in the fifteenth year of our reign."

GOD ſave the KING.

AMERICA.

Philadelphia. In Congreſs, December 6th, 1775.

"WE the Delegates of the Thirteen United Colonies in North America have taken into our moſt ſerious conſideration a Proclamation iſſued from the Court of St. James's on the 23d day of Auguſt laſt. The name of Majeſty is uſed to give it a ſanction and influence; and, on that account, it becomes a matter of importance to wipe off, in the name of the people of theſe United Colonies, the aſperſions, which it is calculated to throw upon our cauſe; and to prevent, as far as poſſible, the undeſerved puniſhments, which it is deſigned to prepare for our friends.

"We are accuſed of 'forgetting the allegiance which we owe to the "power that has protected and ſuſtained us.' Why all this ambiguity and obſcurity in what ought to be ſo plain and obvious, as that he who runs may read it? What allegiance is it that we forget? Allegiance to Parliament? We never owed—we never owned it.—Allegiance to our King? Our words have ever avowed it—our conduct has ever been conſiſtent with it. We condemn, and, with arms in our hands—a reſource which freemen will never part with—we oppoſe the claim and exerciſe of unconſtitutional powers, to which neither the crown nor parliament were never entitled. By the Britiſh Conſtitution, our beſt

inheritance, rights, as well as duties, deſcend upon us: We cannot violate the latter by defending the former: We ſhould act in diametrical oppoſition to both, if we permitted the claims of the Britiſh Parliament to be eſtabliſhed, and the meaſures purſued in conſequence of thoſe claims to be carried into execution among us. Our ſagacious anceſtors provided mounds againſt the inundation of tyranny and lawleſs power on one ſide, as well as againſt that of faction and licentiouſneſs on the other. On which ſide has the breach been made? Is it objected againſt us by the moſt inveterate and the moſt uncandid of our enemies, that we have oppoſed any of the juſt prerogatives of the crown, or any legal exertion of thoſe prerogatives? Why, then, are we accuſed of forgetting our allegiance?—We have performed our duty; we have reſiſted in thoſe caſes in which the right to reſiſt is ſtipulated as expreſsly, on our part, as the right to govern is, in other caſes, ſtipulated on the part of the crown. The breach of allegiance is removed from our reſiſtance as far as tyranny is removed from legal government. It is alleged that "we have proceeded to an open and avowed rebellion." In what does this rebellion conſiſt? It is thus deſcribed.—"Arraying ourſelves in hoſtile manner, to withſtand the execution of the law, and traitorouſly preparing, ordering and levying war againſt the King." We know of no laws binding upon us, but ſuch as have been tranſmitted to us by our anceſtors, and ſuch as have been conſented to by ourſelves or our repreſentatives elected for that purpoſe. What laws, ſtampt with theſe characters, have we withſtood? We have indeed defended them; and we will riſque every thing, do every thing, and ſuffer every thing in their defence. To ſupport our laws, and our liberties eſtabliſhed by our laws, we have prepared, ordered, and levied war: But is this traitorouſly, or againſt the king? We view him as the conſtitution repreſents him: That tells us he can do no wrong. The cruel and illegal attacks, which we oppoſe, have no foundation in the royal authority. We will not, on our part, loſe the diſtinction between the King and his miniſters: happy it would have been for ſome former princes had it been always preſerved on the part of the crown!

"Beſides all this, we obſerve, on this part of the proclamation, that 'rebellion' is a term undefined and unknown in the law. It might have been expected, that a proclamation, which, by the Britiſh conſtitution, has no other operation than merely that of enforcing what is already law, would have a known legal baſis to have reſted upon. A correſpondence between the inhabitants of Great Britain, and their brethren in America produced better times, much ſatisfaction to individuals, and much advantage to the public. By what criterion ſhall one, who is unwilling to break off this correſpondence, and is, at the ſame time, anxious not to expoſe himſelf to the dreadful conſequences, threatend in this proclamation.—By what criterion ſhall he regulate his conduct? He is admoniſhed not to carry on correſpondence with the perſons now in rebellion in the Colonies. How ſhall he aſcertain who are in rebellion, and who are not? he conſults the law, to learn the nature of the ſuppoſed crime: the law is ſilent upon the ſubject. This, in a country, where it has been often ſaid, and formerly with juſtice,

juſtice, that the government is by law, and not by men, might render him perfectly eaſy. But proclamations have been ſometimes dangerous engines in the hands of thoſe in power. Information is commanded to be given to one of the Secretaries of States, of all perſons, "who ſhall be found carrying on correſpondence with the perſons in rebellion, in order to bring to condign puniſhment the authors, perpetrators, or abettors of ſuch dangerous deſigns." Let us ſuppoſe, for a moment, that ſome perſons in the colonies are in rebellion, and that thoſe, who carry on correſpondence with them, might learn, by ſome rule, which Britons are bound to know, how to diſcriminate them: Does it follow, that all correſpondence with them deſerves to be puniſhed? It might have been intended to appriſe them of their danger, and to reclaim them from their crimes. By what law does a correſpondence with a criminal transfer to communicate his guilt? We know that thoſe who aid and adhere to the King's enemies, and thoſe who correſpond with them, in order to enable them to carry their deſigns into effect, are criminal in the eye of the law. But the law goes no farther. Can proclamations, according to the principles of reaſon and juſtice, and the conſtitution go farther than the law.

"But, perhaps, the principles of reaſon and juſtice and the conſtitution will not prevail; experience ſuggeſts to us the doubt; if they ſhould not, we muſt reſort to arguments drawn from a very different ſource. We, therefore, in the name of the people of theſe United Colonies, and by authority, according to the pureſt maxims of repreſentation derived from them, declare, that whatever puniſhment ſhall be inflicted upon any perſons in the power of our enemies for favouring, aiding, or abetting the cauſe of American liberty, ſhall be retaliated in the ſame kind, and in the ſame degree upon thoſe in our power, who have favoured, aided, or abetted, or ſhall favour, aid, or abet, the ſyſtem of miniſterial oppreſſion. The eſſential difference between our cauſe, and that of our enemies, might juſtify a ſeverer puniſhment: the law of retaliation will unqueſtionably warrant one equally ſevere.

"We mean not, however, by this declaration, to occaſion or to multiply puniſhments: our ſole view is to prevent them. In this unhappy and unnatural controverſy, in which Britons fight againſt Britons and the deſcendants of Britons, let the calamities immediately incident to civil war ſuffice. We hope additions will not, from wantonneſs, be made to them on one ſide: we ſhall regret the neceſſity, if laid under the neceſſity, of making them on the other.

(Extract from the minutes,) "CHARLES THOMPSON, Sec."

A bill was alſo paſſed by the Britiſh parliament, intituled, "An act to prohibit all trade and intercourſe with the colonies of New Hampſhire, Maſſachuſett's Bay, Rhode Iſland, Connecticut, New York, New Jerſey, Pennſylvania, the Three Lower Counties on Delaware, Maryland, Virginia, North Carolina, South Carolina, and Georgia, during the continuance of the preſent rebellion, within the ſaid colonies reſpectively;" in which it is, amongſt other things enacted, "That all ſhips and veſſels, of or belonging to the inhabitants of the ſaid colonies, together with their cargoes, apparel, and furniture, except as in the

ſaid acts are excepted, and all other ſhips and veſſels whatſoever, together with their cargoes, apparel, and furniture, which ſhall be found trading in any port or place, except as are therein alſo excepted, ſhall become forfeited to his Majeſty, as if the ſame were the ſhips and effects of open enemies, and ſhall be ſo adjudged deemed, and taken, in all courts of admiralty, and in all other courts whatſoever."

In 1776, Congreſs entered into the following reſolutions, and iſſued to the world, the declaration of their Freedom and Independence.

In Congreſs, March 23, 1776.

"Whereas the petitions of theſe United Colonies to the king for the redreſs of great and manifeſt grievances, have not only been rejected, but treated with ſcorn and contempt; and the oppoſition to deſigns evidently formed to reduce them to a ſtate of ſervile ſubjection, and their neceſſary defence againſt hoſtile forces, actually employed to ſubdue them, declared rebellion: And whereas an unjuſt war hath been commenced againſt them, which the commanders of the Britiſh fleets and armies have proſecuted, and ſtill continue to proſecute with their utmoſt vigour, and in a cruel manner, waſting, ſpoiling, and deſtroying the country, burning houſes and defenceleſs towns, and expoſing the helpleſs inhabitants to every miſery from the inclemency of the winter, and not only urging ſavages to invade the country, but inſtigating negroes to murder their maſters: And whereas the parliament of Great-Britain hath lately paſſed an act, affirming theſe colonies to be in open rebellion; forbidding all trade and commerce with the inhabitants thereof, until they ſhall accept pardons and ſubmit to deſpotic rule; declaring their property, wherever found upon the water, liable to ſeizure and confiſcation, and enacting, that what had been done there, by virtue of the royal authority, were juſt and lawful acts, and ſhall be ſo deemed: from all which it is manifeſt, that the iniquitous ſcheme concerted to deprive them of the liberty, they have a right to, by the laws of nature and the Engliſh conſtitution, will be pertinaciouſly purſued. It being, therefore, neceſſary to provide for their defence and ſecurity, and juſtifiable to make repriſals upon their enemies and otherwiſe to annoy them, according to the laws and uſages of nations; the congreſs, truſting that ſuch of their friends in Great-Britain (of whom it is confeſſed there are many entitled to applauſe and gratitude for their patriotiſm and benevolence, and in whoſe favour a diſcrimination of property cannot be made) as ſhall ſuffer by captures, will impute it to the authors of our common calamities, *Do declare and reſolve*, as followeth, *to wit*,

"*Reſolved*, That the inhabitants of theſe colonies be permitted to fit out armed veſſels, to cruiſe on the enemies of theſe United Colonies.

"*Reſolved*, That all ſhips and other veſſels, their tackle, apparel, and furniture, and all goods, wares, and merchandizes belonging to any inhabitant or inhabitants of Great-Britain taken on the high ſeas, or between high and low water mark, by any armed veſſel fitted out by any private perſon or perſons, and to whom commiſſions ſhall be granted, and being libelled and proſecuted in any court erected for the trial of maritime affairs in any of theſe Colonies, ſhall be deemed and adjudged,

judged to be lawful prize, and after deducting and paying the wages, the ſeamen and mariners on board of ſuch captures as are merchant ſhips and veſſels, ſhall be entitled to according to the terms of their contracts until the time of the adjudication, ſhall be condemned to and for the uſe of the owner or owners, and the officers, marines, and mariners of ſuch armed veſſel according to ſuch rules and proportions, as they ſhall agree on. Provided always that this reſolution ſhall not extend or be conſtrued to extend to any veſſel bringing ſettlers, arms, ammunition or warlike ſtores, to and for the uſe of theſe colonies, or any of the inhabitants thereof who are friends to the American cauſe, or to ſuch warlike ſtores or to the effects of ſuch ſettlers.

"*Reſolved*, That all ſhips or veſſels, with their tackle, apparel, and furniture, goods, wares, and merchandizes, belonging to any inhabitant of Great-Britain, as aforeſaid, which ſhall be taken by any of the veſſels of war of theſe United Colonies, ſhall be deemed forfeited, one-third, after deducting and paying the wages of ſeamen and mariners, as aforeſaid, to the officers and men on board; and two-thirds to the uſe of the United Colonies.

"*Reſolved*, That all ſhips or veſſels, with their tackle, apparel, furniture, goods, wares, and merchandizes, belonging to any inhabitant of Great-Britain, as aforeſaid, which ſhall be taken by any veſſel of war fitted out by, and at the expence of any of the United Colonies, ſhall be deemed forfeited, and divided, after deducting and paying the wages of ſeamen and mariners, as aforeſaid, in ſuch manner and proportions as the aſſembly or convention of ſuch colony ſhall direct.

"*Reſolved*, That all veſſels, their tackle, apparel, and furniture, and cargoes belonging to inhabitants of Great-Britain as aforeſaid, and all veſſels which may be employed in carrying ſupplies to the miniſterial armies, which ſhall happen to be taken near the ſhores of any of theſe colonies, by the people of the country, or detachments from the army, ſhall be deemed a lawful prize, and the court of admiralty, within the ſaid colony, is required, on condemnation thereof, to adjudge that all charges and expences, which may attend the capture and trial, be firſt paid out of the monies ariſing from the ſales of the prize, and the remainder equally divided among all thoſe who have been actually engaged and employed in taking the ſaid prize. Provided that where any detachments of the army ſhall have been employed as aforeſaid, their part of the prize-money ſhall be diſtributed among them in proportion to the pay of the officers and ſoldiers ſo employed.

(Extract from the minutes.) "CHARLES THOMSON, Sec."

In Congreſs, May 15, 1776.

"Whereas his Britannic Majeſty, in conjunction with the lords and commons of Great-Britain, has, by a late act of parliament, excluded the inhabitants of theſe United Colonies from the protection of his crown. And whereas no anſwer whatever, to the humble petitions of the colonies for redreſs of grievances and reconciliation with Great-Britain, has been, or is likely to be given, but the whole force of that

kingdom, aided by foreign mercenaries, is to be exerted for the deſtruction of the good people of theſe colonies. And whereas it appears abſolutely irreconcileable to reaſon and good conſcience, for the people of theſe colonies *now* to take the oaths and affirmations neceſſary for the ſupport of any government under the crown of Great-Britain; and it is neceſſary that the exerciſe of every kind of authority under the ſaid crown ſhould be totally ſuppreſſed, and all the powers of government exerted under the people of theſe colonies, for the preſervation of internal peace, virtue, and good order, as well as for the defence of their lives, liberties and properties, againſt the hoſtile invaſions and cruel depredations of their enemies—Therefore,

"*Reſolved*, That it be recommended to the reſpective aſſemblies and conventions of the United Colonies, where no government ſufficient to the exigencies of their affairs has been hitherto eſtabliſhed, to adopt ſuch government as ſhall, in the opinion of the repreſentatives of the people, beſt conduce to the happineſs and ſafety of their conſtituents in particular, and America in general.

(*By order of the Congreſs,*) "JOHN HANCOCK, Preſident."

In Congreſs, July 4, 1776.

A Declaration by the Repreſentatives of the United States of America, in General Congreſs aſſembled.

"When, in the courſe of human events, it becomes neceſſary for one people to diſſolve the political bands, which have connected them with another, and to aſſume among the powers of the earth, the ſeparate and equal ſtation to which the laws of nature, and of nature's God entitle them, a decent reſpect to the opinions of mankind requires that they ſhould declare the cauſes which impel them to the ſeparation.

We hold theſe truths to be ſelf-evident, that all men are created equal, that they are endowed by their Creator, with certain unalienable rights; that among theſe are life, liberty, and the purſuit of happineſs. (*How ſpecious, yet how palpably inconſiſtent theſe declarations from a people holding ſlaves.*) That to ſecure theſe rights, governments are inſtituted among men, deriving their juſt powers from the conſent of the governed; that whenever any form of government becomes deſtructive of theſe ends, it is the right of the people to alter or to aboliſh it, and to inſtitute a new government, laying it's foundation on ſuch principles, and organizing it's powers in ſuch form, as to them ſhall ſeem moſt likely to effect their ſafety and happineſs. Prudence, indeed, will dictate that governments long eſtabliſhed ſhould not be changed for light and tranſient cauſes; and accordingly all experience hath ſhewn, that mankind are more diſpoſed to ſuffer, while evils are ſufferable, than to right themſelves by aboliſhing the forms to which they are accuſtomed. But when a long train of abuſes and uſurpations, purſuing invariably the ſame object, evinces a deſign to reduce them under abſolute deſpotiſm, it is their right, it is their duty, to throw off ſuch government, and to provide new guards for their future ſecurity. Such has been the patient ſufferance of theſe colonies, and ſuch is now the neceſſity which conſtrains them to alter their former

mer ſyſtems of government. The hiſtory of the preſent king of Great Britain is a hiſtory of repeated injuries and uſurpations, all having in direct object the eſtabliſhment of an abſolute tyranny over theſe ſtates. To prove this, let facts be ſubmitted to a candid world.

He has refuſed to aſſent to laws, the moſt wholeſome and neceſſary for the public good.

He has forbidden his governors to paſs laws of immediate and preſſing importance, unleſs ſuſpended in their operation till his aſſent ſhould be obtained; and, when ſo ſuſpended, he has utterly neglected to attend to them.

He has refuſed to paſs other laws for the accommodation of large diſtricts of people, unleſs thoſe people would relinquiſh the right of repreſentation in the legiſlature, a right ineſtimable to them, and formidable to tyrants only.

He has called together legiſlative bodies at places unuſual, uncomfortable, and diſtant from the depoſitory of their public records, for the ſole purpoſe of fatiguing them into compliance with his meaſures.

He has diſſolved repreſentative houſes repeatedly, for oppoſing, with manly firmneſs, his invaſions on the rights of the people.

He has refuſed, for a long time after ſuch diſſolutions, to cauſe others to be elected; whereby the legiſlative powers, incapable of annihilation, have returned to the people at large for their exerciſe; the ſtate remaining at the ſame time expoſed to all the dangers of invaſion from without, and convulſions within.

He has endeavoured to prevent the population of theſe ſtates; for that purpoſe obſtructing the laws for naturalization of foreigners; refuſing to paſs others to encourage their migrations hither, and raiſing the conditions of new appropriations of lands.

He has obſtructed the adminiſtration of juſtice, by refuſing his aſſent to laws for eſtabliſhing judiciary powers.

He has made judges dependent on his will alone, for the tenure of their offices, and the amount and payment of their ſalaries.

He has erected a multitude of new offices, and ſent hither ſwarms of officers to harraſs our people, and eat out their ſubſtance.

He has kept among us, in times of peace, ſtanding armies, without the conſent of our legiſlatures.

He has affected to render the military independent of, and ſuperior to, the civil power.

He has combined with others to ſubject us to a juriſdiction foreign to our conſtitution, and acknowledged by our laws; giving his aſſent to their acts of legiſlation:

For quartering large bodies of armed troops among us:

For protecting them, by a mock trial, from puniſhment for any murders which they ſhould commit on the inhabitants of theſe ſtates:

For cutting off our trade with all parts of the world.

For impoſing taxes on us without our conſent.

For depriving us, in many caſes, of the benefits of trial by jury:

For tranſporting us beyond ſeas to be tried for pretended offences:

For aboliſhing the free ſyſtem of Engliſh laws in a neighbouring province, eſtabliſhing therein an arbitrary government, and enlarging

it's

it's boundaries, ſo as to render it at once an example and fit inſtrument for introducing the ſame abſolute rule into theſe colonies:

For taking away our charters, aboliſhing our moſt valuable laws, and altering fundamentally the forms of our governments:

For ſuſpending our own legiſlatures, and declaring themſelves inveſted with power to legiſlate for us in all caſes whatſoever.

He has abdicated government here, by declaring us out of his protection, and waging war againſt us.

He has plundered our ſeas, ravaged our coaſts, burnt our towns, and deſtroyed the lives of our people.

He is, at this time, tranſporting large armies of foreign mercenaries to compleat the works of death, deſolation, and tyranny, already begun with circumſtances of cruelty and perfidy, ſcarcely paralleled in the moſt barbarous ages, and totally unworthy the head of a civilized nation.

He has conſtrained our fellow-citizens, taken captive on the high ſeas, to bear arms againſt their country, to become the executioners of their friends and brethren, or to fall themſelves by their hands.

He has excited domeſtic inſurrections amongſt us, and has endeavoured to bring on the inhabitants of our frontiers the mercileſs Indian ſavages, whoſe known rule of warfare is an undiſtinguiſhd deſtruction of all ages, ſexes, and conditions.

In every ſtage of theſe oppreſſions we have petitioned for redreſs in the moſt humble terms: our repeated petitions have been anſwered only by repeated injury. A prince, whoſe character is thus marked by every act which may define a tyrant, is unfit to be the ruler of a free people.

Nor have we been wanting in attention to our Britiſh brethren. We have warned them from time to time of attempts made by their legiſlature to extend an unwarrantable juriſdiction over us. We have reminded them of the circumſtances of our emigration and ſettlement here. We have appealed to their native juſtice and magnanimity, and we have conjured them, by the ties of our common kindred to diſavow theſe uſurpations, which would inevitably interrupt our connections and correſpondences. They too have been deaf to the voice of juſtice and of conſanguinity. We muſt, therefore, acquieſce in the neceſſity, which denounces our ſeparation, and hold them, as we hold the reſt of mankind; enemies in war; in peace, friends.

We, therefore, the repreſentatives of the United States of America, in General Congreſs aſſembled, appealing to the Supreme Judge of the world for the rectitude of our intentions, do, in the name, and by authority of the good people of theſe colonies, ſolemnly publiſh and declare, that theſe United Colonies are, and of right ought to be, FREE AND INDEPENDENT STATES; that they are abſolved from all allegiance to the Britiſh crown, and that all political connection between them and the ſtate of Great Britain is, and ought to be, totally diſſolved; and that, as Free and Independent States, they have full power to levy war, conclude peace, contract alliances, eſtabliſh commerce, and to do all other acts and things which Independent States may of right do. And for the ſupport of this declaration, with a firm

reliance

reliance on the protection of Divine Providence, we mutually pledge to each other our lives, our fortunes, and our ſacred honour.

Signed by order, and in behalf of the Congreſs,

"JOHN HANCOCK, Preſident."
"CHARLES THOMSON, Sec."

At the ſame time they publiſhed articles of confederation and perpetual union between the ſtates, in which they took the ſtyle of "*The United States of America,*" and agreed that each ſtate ſhould retain it's ſovereignty, freedom, and independance, and every power, juriſdiction, and right not expreſsly delegated to congreſs by the confederation. By theſe articles, the Thirteen United States ſeverally entered into a firm league of friendſhip with each other for their common defence, the ſecurity of their liberties, and their mutual and general welfare, and bound themſelves to aſſiſt each other, againſt all force offered to, or attacks that might be made upon all, or any of them, on account of religion, ſovereignty, commerce, or any other pretence whatever. But for the more convenient management of the general intereſts of the United States, it was determined that delegates ſhould be annually appointed, in ſuch manner as the legiſlature of each ſtate ſhould direct, to meet in congreſs the firſt Monday of November of every year, with a power reſerved to each ſtate to recal it's delegates, or any of them, at any time within the year, and ſend others in their ſtead for the remainder of the year. No ſtate was to be repreſented in congreſs by leſs than two, or more than ſeven members; and no perſon could be a delegate for more than three years, in any term of ſix years; nor was any perſon, being a delegate, capable of holding any office under the United States, for which he, or any other for his benefit, ſhould receive any ſalary, fees, or emolument of any kind. In determining queſtions in congreſs, each ſtate was to have one vote. Every ſtate was bound to abide by the determinations of congreſs in all queſtions which were ſubmitted to them by the confederation. The articles of confederation were to be invariably obſerved by every ſtate, and the union to be perpetual; nor was any alteration at any time hereafter to be made in any of the articles, unleſs ſuch alterations be agreed to in congreſs, and be afterwards confirmed by the legiſlatures of every ſtate.

We paſs over the detail of the wars, and the aggravated atrocities, wherewith it's horrors were increaſed, and of the wretchedneſs and miſery it induced in it's progreſs and it's train, both in the eaſtern and weſtern world.

In the ſpring of 1782, Guy Carleton arrived in New-York, and took the command of the Britiſh army in America, immediately on his arrival, he acquainted George Waſhington and Congreſs, that negociations for a peace had been commenced at Paris.

On the 30th of the Eleventh-month, 1782, proviſional articles of peace were ſigned at Paris; by which Great Britain acknowledged the independence and ſovereignty of the United States of America; and theſe articles were ratified by a definitive treaty.

Thus

Thus ended a long and arduous conflict, in which Great Britain expended near an hundred millions of money, with an hundred thousand lives, and won nothing. America endured every cruelty and diſtreſs, loſt many lives and much treaſure; but was delivered from a foreign dominion.

No ſooner was peace reſtored by the definitive treaty, and the Britiſh troops withdrawn from the country, than the United States began to experience the defects of their general government. While an enemy was in the country, fear, which had firſt impelled the coloniſts to aſſociate in mutual defence, continued to operate as a band of political union. It gave to the reſolutions and recommendations of congreſs the force of laws, and generally commanded a ready acquieſcence on the part of the ſtate legiſlatures. Articles of confederation and perpetual union had been framed in congreſs, and ſubmitted to the conſideration of the ſtates, in the year 1778. Some of the ſtates immediately acceded to them; but others, which had not unappropriated lands, heſitated to ſubſcribe a compact, which would give an advantage to the ſtates which poſſeſſed large tracts of unlocated lands, and were thus capable of a great ſuperiority in wealth and population. All objections, however, had been overcome; and by the acceſſion of Maryland in 1781, the articles of confederation were ratified, as the frame of government for the United States.

Theſe articles of confederation, after eleven years experience, being found inadequate to the purpoſes of a federal government, for reaſons hereafter mentioned, delegates were choſen in each of the United States, to meet, and fix upon the neceſſary amendments. They accordingly met in convention at Philadelphia, in the ſummer of 1787, and agreed to propoſe the following conſtitution for the conſideration of their conſtituents; which was afterwards adopted.

The Conſtitution of the United States of America,

We, the people of the United States, in order to form a more perfect union, eſtabliſh juſtice, inſure domeſtic tranquillity, provide for the common defence, promote the general welfare, and ſecure the bleſſings of liberty to ourſelves and our poſterity, do ordain and eſtabliſh this conſtitution for the United States of America.

Article I.

Sect. 1. All legiſlative powers herein granted, ſhall be veſted in a congreſs of the United States, which ſhall conſiſt of a ſenate, and houſe of repreſentatives.

Sect. 2. The houſe of repreſentatives ſhall be compoſed of members choſen every ſecond year by the people of the ſeveral ſtates; and the electors in each ſtate ſhall have the qualifications requiſite for electors of the moſt numerous branch of the ſtate legiſlature.

No perſon ſhall be a repreſentative who ſhall not have attained to the age of twenty-five years, and been ſeven years a citizen of the United States, and who ſhall not, when elected, be an inhabitant of that ſtate in which he ſhall be choſen.

Repre-

Repreſentatives and direct taxes ſhall be apportioned among the ſeveral ſtates which may be included within this union, according to their reſpective numbers, which ſhall be determined by adding to the whole number of free perſons, including thoſe bound for ſervice for a term of years, and, excluding Indians not taxed, three-fifths of all other perſons. The actual enumeration ſhall be be made within three years after the firſt meeting of the congreſs of the United States, and within every ſubſequent term of ten years, in ſuch manner as they ſhall by law direct. The number of repreſentatives ſhall not exceed one for every thirty thouſand, but each ſtate ſhall have at leaſt one repreſentative; and, until ſuch enumeration ſhall be made, the ſtate of New Hampſhire ſhall be entitled to chuſe three; Maſſachuſetts, eight; Rhode Iſland and Providence Plantations, one; Connecticut, five; New York, ſix; New Jerſey, four; Pennſylvania, eight; Delaware, one; Maryland, ſix; Virginia, ten; North Carolina, five; South Carolina, five; and Georgia, three.

When vacancies happen in the repreſentation from any ſtate, the executive authority thereof ſhall iſſue writs of election to fill ſuch vacancies.

The houſe of repreſentatives ſhall chuſe their ſpeaker and other officers; and ſhall have the ſole power of impeachment.

Sect. 3. The ſenate of the United States ſhall be compoſed of two ſenators from each ſtate, choſen by the legiſlature thereof, for ſix years; and each ſenator ſhall have one vote.

Immediately after they ſhall be aſſembled, in conſequence of the firſt election, they ſhall be divided, as equally as may be, into three claſſes. The ſeats of the ſenators of the firſt claſs ſhall be vacated at the expiration of the ſecond year, of the ſecond claſs at the expiration of the fourth year, and of the third claſs at the expiration of the ſixth year, ſo that one-third may be choſen every ſecond year; and if vacancies happen, by reſignation or otherwiſe, during the receſs of the legiſlature of any ſtate, the executive thereof may make temporary appointments until the next meeting of the legiſlature, which ſhall then fill ſuch vacancies.

No perſon ſhall be a ſenator who ſhall not have attained to the age of thirty years, and been nine years a citizen of the United States, and who ſhall not, when elected, be an inhabitant of that ſtate for which he ſhall be choſen.

The vice-preſident of the United States ſhall be preſident of the ſenate, but ſhall have no vote, unleſs they be equally divided.

The ſenate ſhall chuſe their other officers, and alſo a preſident *pro tempore*, in the abſence of the vice-preſident, or when he ſhall exerciſe the office of preſident of the United States.

The ſenate ſhall have the ſole power to try all impeachments. When ſitting for that purpoſe, they ſhall be on oath or affirmation. When the preſident of the United States is tried, the chief juſtice ſhall preſide; and no perſon ſhall be convicted without the concurrence of two-thirds of the members preſent.

Judgment, in caſes of impeachment, ſhall not extend further than to removal from office, and diſqualification to hold and enjoy any of-

fice of honour, truſt, or profit, under the United States; but the party convicted ſhall nevertheleſs be liable and ſubject to indictment, trial, judgment, and puniſhment, according to law.

Sect. 4. The times, places, and manner of holding elections for ſenators and repreſentatives, ſhall be preſcribed in each ſtate by the legiſlature thereof; but the congreſs may, at any time, by law, make or alter ſuch regulations, except as to the places of chuſing ſenators.

The congreſs ſhall aſſemble at leaſt once in every year; and ſuch meeting ſhall be on the firſt Monday in December, unleſs they ſhall, by law, appoint a different day.

Sect. 5. Each houſe ſhall be the judge of the elections, returns, and qualifications of it's own members, and a majority of each ſhall conſtitute a quorum to do buſineſs, but a ſmaller number may adjourn, from day to day, and may be authorized to compel the attendance of abſent members, in ſuch manner, and under ſuch penalties as each houſe may provide.

Each houſe may determine the rules of it's proceedings, puniſh it's members for diſorderly behaviour, and, with the concurrence of two-thirds, expel a member.

Each houſe ſhall keep a journal of it's proceedings, and from time to time publiſh the ſame, excepting ſuch parts as may, in their judgment, require ſecrecy; and the yeas and nays of the members of either houſe, on any queſtion, ſhall, at the deſire of one-fifth of thoſe preſent, be entered on the journal.

Neither houſe, during the ſeſſion of congreſs, ſhall, without the conſent of other, adjourn for more than three days, nor to any other place than that in which the two houſes ſhall be ſitting.

Sect. 6. The ſenators and repreſentatives ſhall receive a compenſation for their ſervices, to be aſcertained by law, and paid out of the treaſury of the United States. They ſhall, in all caſes, except treaſon, felony, and a breach of the peace, be privileged from arreſt during their attendance at the ſeſſion of their reſpective houſes, and in going to and returning from the ſame; and for any ſpeech or debate in either houſe, they ſhall not be queſtioned in any other place.

No ſenator or repreſentative ſhall, during the time for which he was elected, be appointed to any civil office under the authority of the United States, which ſhall have been created, or the emoluments whereof ſhall have been increaſed during ſuch time; and no perſon holding any office under the United States ſhall be a member of either houſe during his continuance in office.

Sect. 7. All bills for raiſing revenue ſhall originate in the houſe of repreſentatives; but the ſenate may propoſe, or concur, with amendments, as on other bills.

Every bill, which ſhall have paſſed the houſe of repreſentatives and the ſenate, ſhall, before it become a law, be preſented to the Preſident of the United States: if he approve, he ſhall ſign it; but, if not, he ſhall return it, with his objections, to that houſe in which it ſhall have originated, who ſhall enter the objections at large on their journal, and proceed to reconſider it. If, after ſuch reconſideration, two-thirds of that houſe ſhall agree to paſs the bill, it ſhall be ſent, together with

with the objections, to the other houſe, by which it ſhall likewiſe be reconſidered; and, if approved by two-thirds of that houſe, it ſhall become a law. But in all ſuch caſes, the votes of both houſes ſhall be determined by yeas and nays; and the names of the perſons voting for and againſt the bill, ſhall be entered on the journal of each houſe reſpectively. If any bill ſhall not be returned by the preſident within ten days (Sundays excepted) after it ſhall have been preſented to him, the ſame ſhall be a law, in like manner as if he had ſigned it, unleſs the congreſs, by their adjournment, prevent it's return, in which caſe it ſhall not be a law.

Every order, reſolution, or vote, to which the concurrence of the ſenate and houſe of repreſentatives may be neceſſary (except on a queſtion of adjournment) ſhall be preſented to the Preſident of the United States; and before the ſame ſhall take effect, ſhall be approved by him; or, being diſapproved by him, ſhall be repaſſed by two-thirds of the ſenate and houſe of repreſentatives, according to the rules and limitations preſcribed in the caſe of a bill.

Sect. 8. The congreſs ſhall have power—

To lay and collect taxes, duties, impoſts, and exciſes, to pay the debts, and provide for the common defence and general welfare of the United States; but all duties, impoſts, and exciſes, ſhall be uniform throughout the United States:

To borrow money on the credit of the United States:

To regulate commerce with foreign nations, and among the ſeveral ſtates, and with the Indian tribes:

To eſtabliſh an uniform rule of naturalization, and uniform laws on the ſubject of bankruptcies throughout the United States:

To coin money, regulate the value thereof, and of foreign coin, and fix the ſtandard of weights and meaſures:

To provide for the puniſhment of counterfeiting the ſecurities and current coin of the United States:

To eſtabliſh poſt-offices and poſt-roads:

To promote the progreſs of ſcience and uſeful arts, by ſecuring, for limited times, to authors and inventors, the excluſive right to their reſpective writings and diſcoveries:

To conſtitute tribunals inferior to the ſupreme court:

To define and puniſh piracies and felonies committed on the high ſeas, and offences againſt the law of nations:

To declare war, grant letters of marque and repriſal, and make rules concerning captures on land and water:

To raiſe and ſupport armies; but no appropriation of money to that uſe ſhall be for a longer term than two years:

To provide and maintain a navy:

To make rules for the government and regulation of the land and naval forces:

To provide for calling forth the militia to execute the laws of the union, ſuppreſs inſurrections, and repel invaſions:

To provide for organizing, arming, and diſciplining the militia, and for governing ſuch part of them as may be employed in the ſervice of the

the United States, reſerving to the ſtates reſpectively, the appointment of the officers, and the authority of training the militia according to the diſcipline preſcribed by congreſs:

To exerciſe excluſive legiſlation in all caſes whatſoever, over ſuch diſtrict (not exceeding ten miles ſquare) as may by ceſſion of particular ſtates, and the acceptance of congreſs, become the ſeat of the government of the United States, and to exerciſe like authority over all places purchaſed by the conſent of the legiſlature of the ſtate in which the ſame ſhall be, for the erection of forts, magazines, arſenals, dock-yards, and other needful buildings:—And

To make all laws which ſhall be neceſſary and proper for carrying into execution the foregoing powers, and all other powers veſted by this conſtitution in the government of the United States, or in any department or office thereof.

Sect. 9. The migration, or importation, of ſuch perſons as any of the ſtates now exiſting ſhall think proper to admit, ſhall not be prohibited by the congreſs prior to the year 1808; but a tax or duty may be impoſed on ſuch importation, not exceeding ten dollars for each perſon.

The privilege of the writ of *habeas corpus* ſhall not be ſuſpended, unleſs when, in caſes of rebellion or invaſion, the public ſafety may require it.

No bill of attainder, or *ex poſt facto* law, ſhall be paſſed.

No capitation, or other direct tax, ſhall be laid, unleſs in proportion to the *cenſus*, or enumeration herein-before directed to be taken.

No tax or duty ſhall be laid on articles exported from any ſtate. No preference ſhall be given by any regulation of commerce or revenue to the ports of one ſtate over thoſe of another: nor ſhall veſſels bound to or from one ſtate be obliged to enter, clear, or pay duties in another.

No money ſhall be drawn from the treaſury, but in conſequence of appropriations made by law; and a regular ſtatement and account of the receipts and expenditures of all public money ſhall be publiſhed from time to time.

No title of nobility ſhall be granted by the United States: and no perſon holding any office of profit or truſt under them, ſhall, without the conſent of congreſs, accept of any preſent, emolument, office, or title, of any kind whatever, from any king, prince, or foreign ſtate.

Sect. 10. No ſtate ſhall enter into any treaty, alliance, or confederation; grant letters of marque and repriſal; coin money, emit bills of credit; make any thing but gold and ſilver coin a tender in payment of debts; paſs any bill of attainder, *ex poſt facto* law, or law impairing the obligation of contracts, or grant any title of nobility.

No ſtate ſhall, without the conſent of the congreſs, lay any impoſts, or duties on imports or exports, except what may be abſolutely neceſſary for executing it's inſpection laws; and the net produce of all duties and impoſts, laid by any ſtate on imports or exports, ſhall be for the uſe of the treaſury of the United States; and all ſuch laws ſhall be ſubject to the reviſion and controul of the congreſs. No ſtate ſhall, without the conſent of congreſs, lay any duty of tonnage, keep troops, or ſhips of war in time of peace, enter into any agreement or compact with

with another ſtate, or with a foreign power, or engage in war, unleſs actually invaded, or in ſuch immminent danger as will not admit of delay.

ARTICLE II.

Sect. 1. The executive power ſhall be veſted in a preſident of the United States of America. He ſhall hold his office during the term of four years, and, together with the vice-preſident, choſen for the ſame term, be elected as follows:

Each ſtate ſhall appoint, in ſuch manner as the legiſlature thereof may direct, a number of electors, equal to the whole number of ſenators and repreſentatives to which the ſtate may be entitled in the congreſs: but no ſenator or repreſentative, or perſon holding an office of truſt or profit under the United States, ſhall be appointed an elector.

The electors ſhall meet in their reſpective ſtates, and vote by ballot for two perſons, of whom one at leaſt ſhall not be an inhabitant of the ſame ſtate with themſelves. And they ſhall make a liſt of all the perſons voted for, and of the number of votes for each; which liſt they ſhall ſign and certify, and tranſmit, ſealed, to the ſeat of the government of the United States, directed to the preſident of the ſenate. The preſident of the ſenate ſhall, in the preſence of the ſenate and houſe of repreſentatives, open all the certificates, and the votes ſhall then be counted. The perſon having the greateſt number of votes ſhall be the preſident, if ſuch number be a majority of the whole number of electors appointed; and if there be more than one who have ſuch majority, and have an equal number of votes, then the houſe of repreſentatives ſhall immediately chuſe by ballot one of them for preſident; and if no perſon have a majority, then from the five higheſt on the liſt the ſaid houſe ſhall in like manner chuſe the preſident. But in chuſing the preſident, the votes ſhall be taken by ſtates, the repreſentation from each ſtate having one vote; a quorum for this purpoſe ſhall conſiſt of a member or members from two-thirds of the ſtates, and a majority of all the ſtates ſhall be neceſſary to a choice. In every caſe after the choice of the preſident, the perſon having the greateſt number of votes of the electors ſhall be the vice-preſident. But if there ſhould remain two or more who have equal votes, the ſenate ſhall chuſe from them, by ballot, the vice-preſident.

The congreſs may determine the time of chuſing the electors, and the day on which they ſhall give their votes; which day ſhall be the ſame throughout the United States.

No perſon, except a natural-born citizen, or a citizen of the United States, at the time of the adoption of this conſtitution, ſhall be eligible to the office of preſident; neither ſhall any perſon be eligible to that office, who ſhall not have attained to the age of thirty-five years, and been fourteen years a reſident within the United States.

In caſe of the removal of the preſident from office, or of his death, reſignation, or inability to diſcharge the powers and duties of the ſaid office, the ſame ſhall devolve on the vice-preſident; and the congreſs may by law provide for the caſe of removal, death, reſignation, or inability, both of the preſident and vice-preſident, declaring what officer

ſhall then act as preſident; and ſuch officer ſhall act accordingly, until the diſability be removed, or a preſident ſhall be elected.

The preſident ſhall, at ſtated times, receive for his ſervices a compenſation, which ſhall neither be increaſed nor diminiſhed during the period for which he ſhall have been elected; and he ſhall not receive within that period any other emolument from the United States, or any of them.

Before he enter on the execution of his office, he ſhall take the following oath or affirmation:

"I do ſolemnly ſwear (or affirm) that I will faithfully execute the office of preſident of the United States; and will, to the beſt of my ability, preſerve, protect, and defend the conſtitution of the United States."

Sect. 2. The preſident ſhall be commander in chief of the army and navy of the United States, and of the militia of the ſeveral ſtates, when called into the actual ſervice of the United States; he may require the opinion, in writing, of the principal officer in each of the executive departments, upon any ſubject relating to the duties of their reſpective offices, and he ſhall have power to grant reprieves and pardons for offences againſt the United States, except in caſes of impeachment.

He ſhall have power, by and with the advice and conſent of the ſenate, to make treaties, provided two-thirds of the ſenators preſent concur; and he ſhall nominate, and by and with the advice and conſent of the ſenate, ſhall appoint ambaſſadors, other public miniſters and conſuls, judges of the ſupreme court, and all other officers of the United States, whoſe appointments are not herein otherwiſe provided for, and which ſhall be eſtabliſhed by law. But the congreſs may by law veſt the appointment of ſuch inferior officers as they think proper in the preſident alone, in the courts of law, or in the heads of departments.

The preſident ſhall have power to fill up all vacancies that may happen during the receſs of the ſenate, by granting commiſſions, which ſhall expire at the end of their next ſeſſion.

Sect. 3. He ſhall from time to time give to the congreſs information of the ſtate of the Union, and recommend to their conſideration ſuch meaſures as he ſhall judge neceſſary and expedient: he may on extraordinary occaſions, convene both houſes, or either of them; and in caſe of diſagreement between them, with reſpect to the time of adjournment, he may adjourn them to ſuch times as he ſhall think proper: he ſhall receive ambaſſadors, and other public miniſters: he ſhall take care that the laws be faithfully executed, and ſhall commiſſion all the officers of the United States.

Sect. 4. The preſident, vice-preſident, and all civil officers of the United States, ſhall be removed from office on impeachment for, and conviction of, treaſon, bribery, or other high crimes and miſdemeanors.

ARTICLE III.

Sect. 1. The judicial power of the United States ſhall be veſted in one ſupreme court, and in ſuch inferior courts as the congreſs may, from time to time, ordain and eſtabliſh. The judges, both of the ſupreme

preme and inferior court, ſhall hold their offices during good behaviour; and ſhall, at ſtated times, receive for their ſervices a compenſation, which ſhall not be diminiſhed during their continuance in office.

Sect. 2. The judicial power ſhall extend to all caſes, in law and equity, ariſing under this conſtitution, the laws of the United States, and treaties made, or which ſhall be made, under their authority; to all caſes affecting ambaſſadors, other public miniſters, and conſuls; to all caſes of admiralty and maritime juriſdiction; to controverſies to which the United States ſhall be a party; to controverſies between two or more ſtates; between a ſtate and citizens of another ſtate; between citizens of different ſtates; between citizens of the ſame ſtate claiming lands under grants of different ſtates; and between a ſtate, or the citizens thereof, and foreign ſtates, citizens, or ſubjects.

In all caſes affecting ambaſſadors, other public miniſters, and conſuls, and thoſe in which a ſtate ſhall be a party, the ſupreme court ſhall have original juriſdiction. In all the other caſes before mentioned, the ſupreme court ſhall have appellate juriſdiction, both as to law and fact, with ſuch exceptions, and under ſuch regulations as the congreſs ſhall make.

The trial of all crimes, except in caſes of impeachment, ſhall be by jury; and ſuch trial ſhall be held in the ſtate where the ſaid crimes ſhall have been committed; but when not committed within any ſtate, the trial ſhall be at ſuch place or places as the congreſs may by law have directed.

Sect. 3. Treaſon againſt the United States, ſhall conſiſt only in levying war againſt them, or in adhering to their enemies, giving them aid and comfort. No perſon ſhall be convicted of treaſon unleſs on the teſtimony of two witneſſes to the ſame overt-act, or on confeſſion in open court.

The congreſs ſhall have power to declare the puniſhment of treaſon; but no attainder of treaſon ſhall work corruption of blood, or forfeiture, except during the life of the perſon attainted.

ARTICLE IV.

Sect. 1. Full faith and credit ſhall be given in each ſtate to the public acts, records, and judicial proceedings of every other ſtate. And the congreſs may by general laws preſcribe the manner in which ſuch acts, records, and proceedings ſhall be proved, and the effect thereof.

Sect. 2. The citizens of each ſtate ſhall be entitled to all privileges and immunities of citizens in the ſeveral ſtates.

A perſon charged in any ſtate with treaſon, felony, or other crime, who ſhall flee from juſtice, and be found in another ſtate, ſhall, on demand of the executive authority of the ſtate from which he fled, be delivered up, to be removed to the ſtate having juriſdiction of the crime.

No perſon, held to ſervice or labour in one ſtate, under the laws thereof, eſcaping into another, ſhall, in conſequence of any law or regulation therein, be diſcharged from ſuch ſervice or labour, but ſhall be delivered up on claim of the party to whom ſuch ſervice or labour may be due.

Sect. 3. New ſtates may be admitted by the congreſs into this Union; but no new ſtate ſhall be formed or erected within the juriſdiction of any other ſtate; nor any ſtate be formed by the junction of two or more ſtates, or parts of ſtates, without the conſent of the legiſlatures of the ſtates concerned, as well as of the congreſs.

The congreſs ſhall have power to diſpoſe of and make all needful rules and regulations reſpecting the territory or other property belonging to the United States: and nothing in this conſtitution ſhall be ſo conſtrued as to prejudice any claims of the United States, or of any particular ſtate.

Sect. 4. The United States ſhall guarantee to every ſtate in this Union a republican form of government, and ſhall protect each of them againſt invaſion; and on application of the legiſlature, or of the executive (when the legiſlature cannot be convened) againſt domeſtic violence.

ARTICLE V.

The congreſs, whenever two-thirds of both houſes ſhall deem it neceſſary, ſhall propoſe amendments to this conſtitution, or, on the application of the legiſlatures of two-thirds of the ſeveral ſtates, ſhall call a convention for propoſing amendments, which, in either caſe, ſhall be valid to all intents and purpoſes, as part of this conſtitution, when ratified by the legiſlatures of three-fourths of the ſeveral ſtates, or by conventions in three-fourths thereof, as the one or the other mode of ratification may be propoſed by the congreſs: Provided, that no amendment which may be made prior to the year one thouſand eight hundred and eight, ſhall in any manner affect the firſt and fourth clauſes in the ninth ſection of the firſt article; and that no ſtate, without it's conſent, ſhall be deprived of it's equal ſuffrage in the ſenate.

ARTICLE VI.

All debts contracted, and engagements entered into, before the adoption of this conſtitution, ſhall be as valid againſt the United States under this conſtitution, as under the confederation.

This conſtitution, and the laws of the United States, which ſhall be made in purſuance thereof; and all treaties made, or which ſhall be made, under the authority of the United States, ſhall be the ſupreme law of the land; and the judges in every ſtate ſhall be bound thereby, any thing in the conſtitution or laws of any ſtate to the contrary notwithſtanding.

The ſenators and repreſentatives before-mentioned, and the members of the ſeveral ſtate legiſlatures, and all executive and judicial officers, both of the United States and of the ſeveral ſtates, ſhall be bound by oath or affirmation to ſupport this conſtitution; but no religious teſt ſhall ever be required as a qualification to any office or public truſt under the United States.

ARTICLE VII.

The ratification of the conventions of nine ſtates ſhall be ſufficient for the eſtabliſhment of this conſtitution, between the ſtates ſo ratifying the ſame.

Done in convention, by the unanimous conſent of the States preſent, the ſeventeenth day of September, in the year of our Lord

Lord one thouſand ſeven hundred and eighty-ſeven, and of the independence of the United States of America the twelfth.

" GEORGE WASHINGTON, PRESIDENT.

Articles in addition to, and amendment of, the Conſtitution of the United States of America, propoſed by Congreſs, and ratified by the Legiſlatures of the ſeveral States, purſuant to the fifth Article of the original Conſtitution.

ARTICLE I.

" After the firſt enumeration required by the firſt article of the conſtitution, there ſhall be one repreſentative for every thirty thouſand, until the number ſhall amount to one hundred, after which the proportion ſhall be ſo regulated by congreſs, that there ſhall be not leſs than one hundred repreſentatives, nor leſs than one repreſentative for every forty thouſand perſons, until the number of repreſentatives ſhall amount to two hundred; after which the proportion ſhall be ſo regulated by congreſs, that there ſhall not be leſs than two hundred repreſentatives, nor more than one repreſentative for every fifty thouſand perſons.

ARTICLE II.

No law varying the compenſation for the ſervices of the ſenators and repreſentatives ſhall take effect, until an election of repreſentatives ſhall have intervened.

ARTICLE III.

Congreſs ſhall make no law reſpecting an eſtabliſhment of religion, or prohibiting the free exerciſe thereof; or abridging the freedom of ſpeech, or of the preſs; or the right of the people peaceably to aſſemble, and to petition the government for a redreſs of grievances.

ARTICLE IV.

A well-regulated militia being neceſſary to the ſecurity of a free ſtate, the right of the people to keep and bear arms ſhall not be infringed.

ARTICLE V.

No ſoldier ſhall, in time of peace, be quartered in any houſe without the conſent of the owner, nor in time of war, but in a manner to be preſcribed by law.

ARTICLE VI.

The right of the people to be ſecure in their perſons, houſes, papers, and effects, againſt unreaſonable ſearches and ſeizures, ſhall not be violated, and no warrants ſhall iſſue, but upon probable cauſe, ſupported by oath or affirmation, and particularly deſcribing the place to be ſearched, and the perſons or things to be ſeized.

ARTICLE VII.

No perſon ſhall be held to anſwer for a capital or otherwiſe infamous crime, unleſs on a preſentment or indictment of a grand jury, except in caſes ariſing in the land or naval forces, or in the militia, when in actual ſervice in time of war or public danger; nor ſhall any perſon be ſubject for the ſame offence to be twice put in jeopardy of life or limb; nor ſhall be compelled in any criminal caſe to be a witneſs againſt himſelf, nor be deprived of life, liberty, or property without due proceſs

of law; nor ſhall private property be taken for public uſe without juſt compenſation.

ARTICLE VIII.

In all criminal proſecutions the accuſed ſhall enjoy the right to a ſpeedy and public trial, by an impartial jury of the ſtate and diſtrict wherein the crime ſhall have been committed, which diſtrict ſhall have been previouſly aſcertained by law, and to be informed of the nature and cauſe of the accuſation; to be confronted with the witneſſes againſt him; to have compulſory proceſs for obtaining witneſſes in his favour, and to have the aſſiſtance of counſel for his defence.

ARTICLE IX.

In ſuits at common law, where the value in controverſy ſhall exceed twenty dollars, the right of trial by jury ſhall be preſerved, and no fact, tried by a jury, ſhall be otherwiſe re-examined in any court of the United States, than according to the rules of the common law.

ARTICLE X.

Exceſſive bail ſhall not be required, nor exceſſive fines impoſed, nor cruel and unuſual puniſhments inflicted.

ARTICLE XI.

The enumeration in the conſtitution, of certain rights ſhall not be conſtrued to deny or diſparage others retained by the people.

ARTICLE XII.

The powers not delegated to the United States by the conſtitution, nor prohibited by it to the ſtates, are reſerved to the ſtates reſpectively, or to the people.

"FREDERICK AUGUSTUS MUHLENBERG,
Speaker of the Houſe of Repreſentatives."
"JOHN ADAMS, *Vice Preſident of the United States, and Preſident of the Senate.*

Atteſt. { JOHN BECKLEY, *Clerk of the Houſe of Repreſentatives.*
SAM. A. OTIS, *Secretary of the Senate.*"

In the conſtitution of the ſtates, we ſee enough of abſurdity to provoke a ſmile, were it not that there can hardly any abſurdity exiſt in ſociety, but what is productive of evil, or gives pain to ſome ſolitary victims, or to injured bodies of people. Theſe republicans, in their movements, ſeem to have been ſhackled with the ancient prejudices of Europe. Having been long under maſters, and a diſtorted and jargonic ſyſtem of juriſprudence, they ſeem, in ſhaking off their allegiance to the *metropole*, to have yet retained many of the old prejudices, follies, and even ſuperſtitions. Their congreſs is formed of an upper and lower houſe, and a head over all; and this check-giving principle grates through the whole political machine; the legiſlatures of the particular ſtates (Pennſylvania excepted, where they have only one houſe) being generally more embarraſſed and ſhackled with the formalities of their original pattern, than the congreſs of the ſtates: and in ſome, they are ſo far from underſtanding the true rights of man, that religious profeſſion affects the privileges of the citizen. Though the proper buſineſs of legiſlation ſhould only have regard to the affairs of men, to the ſocial obligations, they preſume in their deliberations to ſpeak, like other nations, of the Supreme Being, and of Providence; they pretend to interfere between man and his Creator

ator, by the abſurd officiouſneſs of requiring the people to ſupport public worſhip, by blending together, legiſlatively, civil and eccleſiaſtical regulations in their colleges, and in their marriages; and, finally, by their appointing the time when the people ſhall ſay their prayers, and when they ſhall religiouſly ceaſe to eat.

The principle of equality, that ſimple idea, appears, yet, to have been too ſublime for them to have ever conceived. The republic of America is not one and indiviſible. It is a combination of different ſtates with different views and intereſts. An individual, in changing his ſituation in that land, finds his privileges to vary. The laws are not equal. Men are articles of traffic; may be bought and ſold, like any other property, in one part of the republic; in other parts, ſlavery is formally aboliſhed.

But are any of the ſtates clear of the crime of ſupporting ſlavery? even mercantile ſlavery? (for political ſlavery, or unequal rights, has exiſted, ſince the idea was firſt unhappily conceived, of marking out, by hedge, ditch, or wall, the artificial ſyſtem of *meum* and *tuum*, or of private or individual property: yet he, in every age, who conſcientiouſly applies his time and his poſſeſſions to the good of ſociety, is clear of ſupporting this general enſlavement of the human kind.) The ſtates all concur in ſetting up a man to rule over them, who holds his fellows in bondage, or in perſonal ſlavery. His conduct, in this reſpect, they do not dare to cenſure, and his panegyriſts conceal his inconſiſtency, by giving his ſlaves the ſoft appellation of, ſervants or labourers. (See the third clauſe of Sect 2, the firſt of Sect. 9, Art. I. and the laſt clauſe of Sect. 2, Art. IV. of their conſtitution.)

The puniſhment of death may alſo be inflicted in the ſtates, by thoſe, who, from their ſanguinary profeſſion, are in danger of loſing the tender feelings of humanity. The ſoldier of the ſtates, as well as of Europe, may, in certain caſes, be put to death by his maſters, the officers, without a trial by a jury of his peers. Finally, the ſtates in congreſs have had the abſurdity, though rejecting religious teſts, to attempt to impoſe the doctrine of their political infallibility, on ſucceeding generations. (See laſt clauſe in Article 6 of their conſtitution.)

While we mourn over the prejudices wherewith this riſing people are beſet, the friends of humanity muſt rejoice to ſee them cutting ſhort the barbarous and ſanguinary code of laws which they derived from Europe. The American criminal law, in civil courts, only retaliates murder, or inflicts death on thoſe who have themſelves firſt committed this horrid crime. But whilſt they are thus cutting ſhort the homicidal part of their laws, Europeans are ſeeing their fellow-ſubjects, who never ſold their national privileges, ſubjected to the pain of death; and ſubjected, however unwillingly, to the pain of being executioners of that death, at the diſcretion of a ſet of men who cannot be ſuppoſed to be diſintereſted. The military, in ſome parts, have riſen from want of bread, and committed, *vi et armis*, depredations in the country: their officers (the moſt tyrannical of them, perhaps, afraid of falling in ſuch tumults) have ordered them to be ſhot by ſome of their comrades.

SECTION XLVI.

Deſcription of the United States.

The ſtates, eaſt of New-York, were formerly called the New-England Colonies: they are ſtill known by the general name of New-England, and ſeveral things are common to them all.

As the territory of Vermont was included in ſome of the original patents granted by the Plymouth Company, and was ſettled wholly from New-England, it is conſidered as a part of it, and is 350 miles in length, and 140 in breadth.

437. *State of New-England.*] New-England is bounded, on the north by Canada; eaſt by Nova-Scotia, and the Atlantic Ocean; ſouth by the Atlantic and Long-Iſland Sound, and weſt by New-York. It lies in the form of a quarter of a circle. It's weſt line, beginning at the mouth of Byram river, which empties into Long Iſland Sound, at the ſouth-weſt corner of Connecticut, latitude 41 deg. runs a little eaſt of north, until it ſtrikes the 45th degree of latitude, and then curves to the eaſtward almoſt to the Gulf of St. Lawrence.

It is divided into five ſtates, viz. New-Hampſhire, Maſſachuſetts, Rhode-Iſland, Connecticut, and Vermont. Theſe ſtates are ſubdivided into counties, and the counties into townſhips.

New England is a high, hilly, and in ſome parts, a mountainous country. The mountains are comparatively ſmall, running nearly north and ſouth in ridges parallel to each other. Between theſe ridges, flow the great rivers in large meanders, receiving the innumerable rivulets and larger ſtreams which proceed from the mountains on each ſide. To a ſpectator on the top of a neighbouring mountain, the vales between the ridges, while in a ſtate of nature, exhibit a romantic appearance. They ſeem an ocean of woods, ſwelled and depreſſed in it's ſurface like that of the great ocean itſelf. A richer, though leſs romantic view, is preſented, when the vallies, by induſtrious huſbandmen, have been cleared of their natural growth; and the fruit of their labour appears in loaded orchards, extenſive meadows, covered with large herds of ſheep and neat cattle, and rich fields of flax, corn, and the various kinds of grain. Theſe vallies, which have received the expreſſive name of *interval lands*, are of various breadths, from two to twenty miles; and by the annual inundations of the rivers which flow through them, there is frequently an accumulation of rich, fat ſoil, left upon their ſurface, when the waters retire.

The ranges of mountains are full of lakes, ponds, and ſprings of water, that give riſe to numberleſs ſtreams of various ſizes, which, interlocking each other in every direction, and falling over the rocks in in romantic caſcades, flow meandering into the rivers below. On the ſea-coaſt, the land is low, and in many parts level and ſandy. In the vallies, between the fore-mentioned ranges of mountains, the land is generally

generally broken, and in many places rocky, but of a ſtrong rich ſoil, capable of being cultivated to good advantage, which alſo is the caſe with many ſpots even on the tops of the mountains.

On the beautiful river Connecticut, whoſe banks are ſettled almoſt to it's ſource, are many pleaſant, neat, well-built towns. On it's weſtern bank, from it's mouth northward, are the towns of Saybrook, Haddam, Middleton, Weathersfield, Hartford, Windſor, and Suffield, in Connecticut; Weſt Spring-field, Northampton, Hatfield, and Deerfield, in Maſſachuſetts; Guilford, Brattleborough, in which is Fort Dummer, Weſtminſter, Windſor, Hartford, Fairlee, Newbury, Brunſwick, and many others in Vermont. On the eaſtern bank, in New-Hampſhire, are Woodbury nearly oppoſite to Brunſwick, Northumberland, the Coos country, Lyman, Orford, Lyme, Hanover, in which is Dartmouth college, Lebanon, Cornith, Clermont, Charleſton, or No. 4, Cheſterfield, and many others in New-Hampſhire, Sunderland, Hadley, Springfield, Long-meadow, in Maſſachuſetts; and in Connecticut, Enfield, Eaſt Windſor, Eaſt Hartford, Glaſtenbury, Eaſt Haddam, and Lyme.

This river is navigable to Hartford, upwards of fifty miles from it's mouth, and the produce of the country for two hundred miles above is brought thither in boats. The boats which are uſed in this buſineſs are flat-bottomed, long, and narrow, for the convenience of going up ſtream, and of ſo light a make as to be portable in carts. They are taken out of the river at three different carrying places, all of which make fifteen miles. Sturgeon, ſalmon, and ſhad are caught in plenty, in their ſeaſon, from the mouth of the river upwards, excepting ſturgeon, which do not aſcend the upper falls; beſides a variety of ſmall fiſh, ſuch as pike, carp, pearch, &c.

From this river are employed three brigs of one hundred and eighty tons each, in the European trade; and about ſixty ſail, from ſixty to one hundred and fifty tons, in the Weſt-India trade; beſides a few fiſhermen, and forty or fifty coaſting veſſels.

The ſoil, as may be collected from what has been ſaid, muſt be very various. Each tract of different ſoil is diſtinguiſhed by it's peculiar vegetation, and is pronounced good, middling, or bad, from the ſpecies of trees which it produces; and one ſpecies generally predominating in each ſoil, has originated the deſcriptive names of oak land—birch, beach, and cheſnut lands—pine barren—maple, aſh, and cedar ſwamps, as each ſpecies happen to predominate. Intermingled with theſe predominating ſpecies are walnut, firs, elm, hemlock, magnolia, or mooſe wood, ſaſſafras, &c. The beſt lands produce walnut and cheſnut; the next, beach and oak; the lands of the third quality produce fir and pitch pine; the next, whortleberry and barberry buſhes; and the pooreſt produces nothing but poor marſhy imperfect ſhrubs.

Among the flowering trees and ſhrubs in the foreſts, are the red flowering maple, the ſaſſafras, the locuſt, the tulip tree, the cheſnut, the wild cherry, prune, crab, ſloe, pear, honey-ſuckle, wild roſe, dogwood, elm, leather tree, laurel, hawthorn, &c. which in the ſpring of the

year

year give the woods a moſt beautiful appearance, and fill them with a delicious fragrance.

Among the fruits which grow wild, are the ſeveral kinds of grapes, which are ſmall, ſour, and thick ſkinned. The vines on which they grow are very luxuriant, often overſpreading the higheſt trees in the foreſts: and without doubt, might be greatly meliorated by proper cultivation.

In the interior country the culture of Indian corn, rye, oats, barley, flax, and hemp, buck-wheat, beans, peas, &c. is carried on, for which the ſoil and climate are peculiarly proper. In many of the inland parts wheat is raiſed in large quantities; but on the ſea-coaſt, it has never been cultivated with ſucceſs, being ſubject to blaſts. Various reaſons have been aſſigned for this. Some have ſuppoſed that the blaſts were occaſioned by the ſaline vapours of the ſea; others have attributed them to the vicinity of barberry buſhes; but perhaps the ſandineſs and poverty of the ſoil may be as efficacious a cauſe as either of the others.

The fruits which the country yields from culture, are, apples in the greateſt plenty; of theſe cyder is made, which conſtitutes the principal drink of the inhabitants; alſo, pears of various ſorts, quinces, peaches, from which is made peach brandy; plums, cherries, apricots, &c. The culinary plants are alſo very plenteous.

New England is a fine grazing country; the vallies, between the hills, are generally interſected with brooks of water, the banks of which are lined with a tract of rich meadow or interval land. The high and rocky ground is, in many parts, covered with honey-ſuckle, and generally affords the fineſt of paſture.

New England is the moſt populous part of the United States. It contains, at leaſt, eight hundred and twenty-three thouſand people, and may, with propriety, be called a nurſery of men, whence are annually tranſplanted, into other parts of the United States, thouſands of it's natives. The State of Vermont, which is but of yeſterday, and contains about one hundred thouſand people, has received more inhabitants from Connecticut, than from any other ſtate; and yet, between the years 1774 and 1782, notwithſtanding the numerous emigrations to Vermont, Suſquehannah, and other places, and the depopulation occaſioned by a ſeven years war, it is found, from actual cenſus of the inhabitants in the years before-metioned, that they have increaſed from one hundred and ninety-ſeven thouſand eight hundred and fifty-ſix, their number in 1774, to two hundred and nine thouſand one hundred and fifty, their number in 1782. Vaſt numbers of the New Englanders, ſince the war, have emigrated into the northern parts of New-York, into Kentucky and the Weſtern Territory, and into Georgia; and ſome are ſcattered into every ſtate, and every town of note in the union.

The people of New England generally obtain their eſtates by hard and perſevering labour, they of conſequence know their value, and ſpend with frugality, yet in no country do the indigent fare better. Their laws oblige every town to provide a competent maintenance for their poor, and the neceſſitous ſtranger is protected, and relieved,

from

from their humane inſtitutions. It is thought by ſome, that in no part of the world the people are happier, better furniſhed with the neceſſaries and conveniences of life, or more independent than the farmers in New-England. As the great body of the people are hardy and independent, their manners are, congenial to their employment, plain, ſimple, and unpoliſhed. Strangers are received and entertained among them with a great deal of artleſs ſincerity, friendly, and unformal hoſpitality.

The inhabitants of New England are generally fond of the arts, and have cultivated them with great ſucceſs: and their colleges have flouriſhed beyond many others in the United States.

The women in New England make it a part of their daily buſineſs to ſuperintend the affairs of the family. Employment at the needle, in cookery, and at the ſpinng-wheel, with them is honourable, and idleneſs is univerſally diſreputable. The women in the country manufacture the greateſt part of the clothing of their families. Their linen and woollen cloths are ſtrong and decent. Their butter and cheeſe is not inferior to any in the world.

New-England has no one ſtaple commodity. The ocean and the foreſt afford the two principal articles of export. Cod-fiſh, mackarel, ſhad, ſalmon, and other fiſh—whale-oil and whale-bone—maſts, boards, ſcantling ſtaves, hoops, and ſhingles, have been, and are ſtill exported in large quantities. The annual amount of cod and other fiſh, for foreign exportation, including the profits ariſing from the whale-fiſhery, is eſtimated at upwards of half a million.

Beſides the articles enumerated, they export from the various parts of New England, ſhips built for ſale, horſes, mules, live ſtock—pickled beef and pork, pot-aſh, pearl-aſh, flax-ſeed, butter and cheeſe, rum, and other articles. From a view of annual imports into New England, it appears that the greateſt part of them conſiſts of the luxuries, or at beſt the diſpenſable conveniences of life; the country affords the neceſſaries in great abundance.

438. *New-York.*] The ſtate of New-York is 350 miles in lenght, and 300 in breadth. It is bounded, ſouth-eaſtwardly, by the Atlantic Ocean; eaſt, by Connecticut, Maſſachuſetts and Vermont; north, by the 45th degree of latitude, which divides it from Canada; northweſtwardly, by the river Iroquois, or St. Lawrence, and the Lakes Ontario and Erie; ſouth-weſt and ſouth, by Pennſylvania and New-Jerſey. The whole ſtate contains about 44,000 ſquare miles, equal to 28,160,000 acres.

Hudſon's river is one of the largeſt and fineſt rivers in the United States. It riſes in the mountainous country, between the Lakes Ontario and Champlain. It's length is about 250 miles. In it's courſe ſouthward, it approaches within a few miles of the Mohawks river, at Saucondauga. Thence it runs north and north-eaſt towards Lake George, and is but ſix or eight miles from it. The courſe of the river thence to New-York, where it empties into York bay, is very uniformly ſouth, 12 or 15 deg. weſt. From Albany to Lake George is ſixty-five miles. This diſtance, the river is navigable only for batteaux, and has two portages, occaſioned by falls, of half a mile each.

The

The banks of Hudſon's river, eſpecially on the weſtern ſide, are chiefly rocky cliffs. The paſſage through the Highlands, which is ſixteen miles, affords a wild, romantic ſcene. In this narrow paſs, on each ſide of which the mountains tower to a great height, the wind, if there be any, is collected and compreſſed, and blows continually as through a bellows. Veſſels, in paſſing through it, are often obliged to lower their ſails. The bed of this river is deep and ſmooth to an aſtoniſhing diſtance, through a hilly, rocky country, and even through ridges of ſome of the higheſt mountains in the United States. The tide flows a few miles above Albany, which is 160 miles from New-York It is navigable for ſloops of 80 tons to Albany, and for ſhips to Hudſon. About 60 miles above New-York, the water becomes freſh. The river is ſtored with a variety of fiſh, which renders a ſummer paſſage to Albany amuſing to thoſe who are fond of angling.

The advantages of this river, for carrying on the fur-trade with Canada, by means of the lakes, and it's convenience for internal commerce, are ſingularly great. The produce of the remoteſt farms is eaſily and ſpeedily conveyed to a certain and profitable market, and at the loweſt expence. In this reſpect, New-York has greatly the advantage of Philadelphia. A great proportion of the produce of Pennſylvania is carried to market in waggons, over a great extent of country, ſome of which is rough: hence it is that Philadelphia is crowded with waggons, carts, horſes, and their drivers, to do the ſame buſineſs that is done in New-York, where all the produce of the country is brought to market by water, with much leſs ſhew and parade.

The river St. Lawrence divides this ſtate from Canada. It riſes in Lake Ontario, runs north-eaſtward—emboſoms Montreal, which ſtands upon an iſland—paſſes by Quebec, and empties, by a broad mouth, into the bay of St. Lawrence. Among a variety of fiſh in this river are ſalmon. They are found as far up as the falls of Niagara, which they cannot paſs.

The ſettlements already made in this ſtate, are chiefly upon two narrow oblongs, extending from the city of New-York, eaſt and north. The one eaſt, is Long-Iſland, which is 140 miles long and narrow, and ſurrounded by the ſea. The one extending north is about forty miles in breadth, and biſected by the Hudſon. And ſuch is the interſection of the whole ſtate, by the branches of the Hudſon, the Delaware, the Suſquehannah, and other rivers which have been mentioned, that there are few places, throughout it's whole extent, that are more than fifteen or twenty miles from ſome boatable or navigable ſtream.

York bay, which is nine miles long, and four broad, ſpreads to the ſouthward before the city of New-York. It is formed by the confluence of the Eaſt and Hudſon's rivers, and emboſoms ſeveral ſmall iſlands, of which Governor's Iſland is the principal. It communicates with the ocean through the *Narrows*, between Staten and Long-Iſlands, which are ſcarcely two miles wide. The paſſage up to New-York, from Sandy-Hook, the point of land that extends fartheſt into the ſea, is ſafe, and not above twenty miles in length.

On

On the north ſide of the mountains, in Orange county, is a very valuable tract called the *Drowned Lands*, containing about 40 or 50,000 acres. The waters, which deſcend from the ſurrounding hills, being but ſlowly diſcharged by the river iſſuing from it, cover theſe vaſt meadows every winter, and render them extremely fertile; but they expoſe the inhabitants in the vicinity to intermittents. The Wallkill river, which paſſes through this extenſive tract, and empties into Hudſon's river, is, in the ſpring, ſtored with very large eels in great plenty. The bottom of this river is a broken rock; and it is ſuppoſed, that for £2000, the channel might be deepened ſo as to let off all the waters from the meadows, and thereby redeem from the floods a large tract of rich land, for graſs, hemp, and Indian corn.

The ſtate, to ſpeak generally, is interſected by ridges of mountains running in a north-eaſt and ſouth-weſt direction. Beyond the Allegany mountains, however, the country is a dead level, of a fine rich ſoil, covered in it's natural ſtate, with maple, beach, birch, cherry, black walnut, locuſt, hickory, and ſome mulberry trees. On the banks of Lake Erie, are a few cheſnut and oak ridges. Hemlock ſwamps are interſperſed thinly through the country. All the creeks that empty into Lake Erie, have falls, which afford many excellent mill-ſeats.

Eaſt of the Allegany mountains, the country is broken into hills with rich intervening vallies. The hills are clothed thick with timber, and when cleared afford fine paſture—the vallies, when cultivated, produce wheat, hemp, flax, peas, graſs, oats, Indian corn.

Beſides the trees already mentioned, there are, in various parts of the ſtate, the ſeveral kinds of oak, ſuch as white, red, yellow, black and cheſnut oak; white, yellow, ſpruce, and pitch pines; cedar, balſam, or fir-tree, butternut, aſpin, commonly called poplar, white wood, which in Pennſylvania is called poplar, and in Europe, the tulip tree, ſugar and rock maple, the linden tree, which, with the whitewood, grows on the low rich ground, the buttonwood or ſycamore, ſhrub cranberry, the fruit of which hangs in cluſters like grapes as large as cherries; this ſhrub, too, grows on low ground. Beſides theſe is the ſumach, which bears cluſters of red berries; the Indians chew the leaves inſtead of tobacco; the berries are uſed in dyes. Of the commodities produced from culture, wheat is the ſtaple, of which immenſe quantities are raiſed, and exported. Indian corn and peas are raiſed for exportation; and rye, oats, barley, &c. for home conſumption.

In ſome parts of the ſtate, large dairies are kept, which furniſh for the market butter and cheeſe. The beſt lands in this ſtate, which lie along the Mohawks river, and weſt of the Allegany mountains, are yet in a ſtate of nature, or are juſt beginning to be ſettled.

The exports to the Weſt-Indies are, biſcuit, peas, Indian corn, apples, onions, boards, ſtaves, horſes, ſheep, butter, cheeſe, pickled oyſters, beef, and pork. But wheat is the ſtaple commodity of the ſtate, of which no leſs than 677,700 buſhels were exported in the year 1775, beſides 2555 tons of bread, and 2828 tons of flour.

Weſt India goods are received in return for theſe articles. Beſides the above-mentioned articles, are exported flax-ſeed, cotton-wool, ſarſaparilla,

ſaparilla, coffee, indigo, rice, pig iron, bar iron, pot aſh, pearl aſh, furs, deer ſkins, log wood, fuſtic, mahogany, bees wax, oil, Madeira wine, rum, tar, pitch, turpentine, whale fins, fiſh, ſugars, molaſſes, ſalt, tobacco, lard, &c. but moſt of theſe articles are imported for re-exportation. In the year 1774, there were employed, in the trade of this ſtate, 1075 veſſels, whoſe tonnage amounted to 40,812.

The long range of Allegany mountains commences with the Katts Kill mountain upon Hudſon's river. This range ſpreads through this ſtate, in a north-eaſt and ſouth-weſt direction, in ſeveral diſtinct ridges, with different names.

The few ſocieties for promoting knowledge or humanity in this ſtate are in the city of New-York. Theſe are "The Society for promoting Uſeful Knowledge." "The Society for the Manumiſſion of Slaves, and protecting ſuch of them as have been or may be liberated;" and, the "Philological Society," the principal object of which is, the improvement of the Engliſh language.

Columbia College has between thirty and forty ſtudents, in four claſſes. The number for ſeveral years has been increaſing. The officers of inſtruction and immediate government are, a preſident, profeſſor of languages, profeſſor of mathematics, profeſſor of logic and rhetoric, profeſſor of natural philoſophy, profeſſor of geography, and a profeſſor of moral philoſophy. There are many other profeſſors belonging to the univerſity, but their profeſſorſhips are merely honorary.

439. *New Jerſey.*] The ſtate of New Jerſey is 160 miles in length, and 52 in breadth. It is bounded on the eaſt by Hudſon's River and the ſea; on the ſouth by the ſea; on the weſt by Delaware Bay and River, which divide it from the ſtates of Delaware and Pennſylvania; and on the north, by a line drawn from the mouth of Mahakkamak River, in latitude 41° 24′ to a point in Hudſon's River in latitude 41°. Containing about 8320 ſquare miles, equal to 5,324,800 acres.

New-Jerſey is waſhed on the eaſt and ſouth-eaſt by Hudſon's river and the ocean; and on the weſt by the river Delaware.

The moſt remarkable bays are, Arthur Kull, or Newark bay, formed by the union of Paſaik and Hakkenſak rivers. This bay opens to the right and left, and embraces Staten-Iſland. There is a long bay, formed by a beach, four or five miles from the ſhore, extending along the coaſt north-eaſt and ſouth-weſt, from Manaſquand river, in Monmouth county, almoſt to Cape May. Through this beach are a number of inlets, by which the bay communicates with the ocean.

Since the peace of 1783, great numbers of the inhabitants have emigrated to the country, weſt of the Allegany Mountains. The increaſe of inhabitants in the ſtate muſt be ſmall, ſo long as theſe emigrations ſhall continue; and they will probably continue as long as there are unſettled lands within the limits of the United States, on which emigrants can more eaſily ſubſiſt by agriculture, than in their native ſtate.

The counties of Suſſex, Morris, and the northern part of Bergen, are mountainous. The South mountain, which is one ridge of the

great Allegany range, croſſes this ſtate in about latitude 41 deg. This mountain emboſoms ſuch amazing quantities of iron ore, that it may not improperly be called the *Iron Mountain*. The Kittatinny ridge paſſes through this ſtate north of the South mountain. Several ſpurs, from theſe mountains, are projected in a ſouthern direction. One paſſes between Springfield and Chatham. Another runs weſt of it, by Morriſtown, Baſkinridge, and Vealtown. The interior country is, in general, agreeably variegated with hills and vallies. The ſouthern countries, which lie along the ſea-coaſt, are pretty uniformly flat and ſandy. The noted Highlands of Naveſink and Center Hill, are almoſt the only hills within the diſtance of many miles from the ſea-coaſt. The Highlands of Naveſink are on the ſea-coaſt near Sandy-Hook, in the townſhip of Middletown, and are the firſt lands that are diſcovered by mariners as they come upon the coaſt. They riſe about 600 feet above the ſurface of the water.

As much as five-eighths of moſt of the ſouthern counties, or one-fourth of the whole ſtate, is a ſandy barren, unfit for cultivation. The land on the ſea-coaſt in this, like that in the more ſouthern ſtates, has every appearance of made ground. The ſoil is generally a light ſand; and by digging, on an average, about fifty feet below the ſurface, (which can be done, even at the diſtance of twenty or thirty miles from the ſea, without any impediment from rocks or ſtones) they come to ſalt marſh.

This ſtate has all the varieties of ſoil, from the worſt to the beſt kind. It has a greater proportion of barrens than any of the ſtates, if we except North-Carolina; and even than this, if we include the premature State of Franklin. The good land in the ſouthern counties lies principally on the banks of the rivers and creeks. The ſoil, on theſe banks, is generally a ſtiff clay; and while in a ſtate of nature, produces various ſpecies of oak, hickory, poplar, cheſnut, aſh, gum, &c. The barrens produce little elſe but ſhrub oaks and white and yellow pines. There are large bodies of ſalt meadow along the Delaware, which afford a plentiful paſture for cattle in ſummer, and hay in winter; but the flies and muſketoes frequent theſe meadows in large ſwarms in ſummer, and prove very troubleſome both to man and beaſt. In Glouceſter and Cumberland counties are ſeveral large tracts of banked meadow. Their vicinity to Philadelphia renders them highly valuable. Along the ſea-coaſt the inhabitants ſubſiſt principally by feeding cattle on the ſalt meadows, and by the fiſh of various kinds, ſuch as rock, drum, ſhad, perch, &c. black turtle, crabs, and oyſters, which the ſea, rivers, and creeks afford in great abundance. They raiſe Indian corn, rye, potatoes, &c. but not for exportation. Their ſwamps afford lumber, which is eaſily conveyed to a good market.

In the hilly and mountainous parts of the ſtate, which are not too rocky for cultivation, the ſoil is of a ſtronger kind, and covered in it's natural ſtate with ſtately oaks, hickories, cheſnuts, &c. &c. and when cultivated produces wheat, rye, Indian corn, buck-wheat, oats, barley, flax, and fruits of all kinds common to the climate. The land in this

hilly

hilly country is good for grazing, and the farmers feed great numbers of cattle for New-York and Philadelphia markets; and many of them keep large dairies.

The orchards in many parts of the ſtate equal any in the United States, and their cyder is ſaid, and not without reaſon, to be the beſt in the world. It is pretty certain that it cannot be ſurpaſſed in goodneſs. It is only to be regretted that too many of the inhabitants make too free an uſe of it, to the injury not only of their healths, but of their reputations; and that the pernicious practice of diſtilling it, and thereby rendering it ſtill more prejudicial, is prevailing.

The markets of New-York and Philadelphia receive a very conſiderable proportion of their ſupplies from the contiguous parts of New-Jerſey. And it is worthy of remark that theſe contiguous parts are exceedingly well calculated, as to the nature and fertility of their ſoils, to afford theſe ſupplies; and the intervention of a great number of navigable rivers and creeks renders it very convenient to market their produce. Theſe ſupplies conſiſt of vegetables of many kinds, apples, pears, peaches, plumbs, ſtrawberries, and other fruits—cyder in large quantities, and of the beſt quality, butter, cheeſe, beef, pork, mutton, and the leſſer meats.

The trade of this ſtate is carried on almoſt ſolely with, and from thoſe two great commercial cities, New-York on one ſide, and Philadelphia on the other; though it wants not good ports of it's own. Several attempts have been made by the legiſlature, to ſecure to the ſtate it's own natural advantages, by granting extraordinary privileges to merchants, who would ſettle at Amboy and Burlington, two very commodious ports. But the people having long been accuſtomed to ſend their produce to the markets of Philadelphia and New-York, and of courſe having their correſpondencies eſtabliſhed, and their mode of dealing fixed, they find it difficult to turn their trade from the old channel.

The articles exported, beſides thoſe already mentioned, are wheat, flour, horſes, live cattle, hams, which are celebrated as being the beſt in the world, lumber, flax-ſeed, leather, iron in great quantities, in pigs and bars, and formerly copper ore was reckoned among their moſt valuable exports; but the mines have not been worked ſince the commencement of the late war.

The imports conſiſt chiefly of dry and Weſt India goods, and teas from the Eaſt Indies.

The manufactures of this ſtate have hitherto been very inconſiderable, not ſufficient to ſupply it's own conſumption, if we except the articles of iron, nails, and leather. A ſpirit of induſtry and improvement, particularly in manufactures, has, however, greatly increaſed in the two laſt years.

340. *Pennſylvania.*] The ſtate of Pennſylvania is 288 miles in length, and 156 in breadth. It is bounded eaſt, by Delaware river; north, by the parallel of 42 deg. north latitude, which divides it from the ſtate of New-York; ſouth, by the parallel of 39 deg. 43 min. 18 ſec. north latitude, which divides it from the ſtates of Delaware,

3 Maryland,

Maryland, and Virginia weſt, by a meridian line, drawn from the termination of five degrees of longitude, from a point on Delaware river, near Wilmington, in the parallel of 39 deg. 43 min. 18 ſec. to interſect the parallel of 42 deg. This line divides the ſtate from a part of Virginia, the Weſtern Territory, (ſo called) and from a tract of land, 20 miles ſquare, which was confirmed to Connecticut by congreſs. The north-weſt corner of Pennſylvania, extends about one mile and an half into Lake Erie, and is about twenty miles weſt of the old French fort, at Preſque Iſle. The ſtate lies in the form of a parallellogram, and contains about 44,900 ſquare miles, equal to about 28,800,000 acres.

There are ſix conſiderable rivers, which, with their numerous branches, peninſulate the whole ſtate, viz. the Delaware, Schuylkill, Suſquehannah, Yohoganey, Monongahela, and Allegany.

As much as nearly one third of this ſtate may be called mountainous; particularly the counties of Bedford, Huntingdon, Cumberland, part of Franklin, Dauphin, and part of Bucks and Northampton, through which paſs, under various names, the numerous ridges and ſpurs, which collectively form the great range of Allegany Mountains.

Excepting the Allegany range of mountains, which croſſes the ſtate in an oblique direction, and is from twenty to fifty miles wide, the ſtate is generally level, or agreeably diverſified with gentle hills and vales. The ſoil is of various kinds; in ſome parts it is barren; a great proportion of the ſtate is good land; and a conſiderable part is very good. Perhaps the proportion of firſt rate land is not greater in any of the thirteen ſtates. The richeſt part of the ſtate, that is ſettled, is Lancaſter county. The richeſt, that is unſettled, is between Allegany river and Lake Erie, in the north-weſt corner of the ſtate. Of this fine tract, 100,000 acres, lying on, and near French Creek, are for ſale by the ſtate. The convenient communications through this creek into the Alleganv, and from the Allegany, through various creeks and rivers to the Suſquehannah and Patomak, have already been mentioned.

The north ſide of Pennſylvania is the richeſt and the beſt ſettled land throughout, owing to the circumſtance of the weſtern road having been run prior to 1762, through the towns of Lancaſter, Carliſle, and Bedford, and thence to Pittſburg. For the purpoſe of turning the tide of ſettlers from this old channel, into the unſettled and more fertile parts of the ſtate, the government and landed intereſt of Pennſylvania have been, and are ſtill buſy in cutting convenient roads. During the ſummer of 1788, they ran a road north, from the former roads beyond Bethlehem, to the north portage between Delaware and Suſquehannah; and thence north eighty degrees weſt to the mouth of the Tyoga; the firſt, ſeventy miles; and the laſt, above ſixty. It is now in contemplation to cut a road from Sunbury, at the forks of the eaſt and weſt branches of Suſquehannah, weſt, 150 miles, to the mouth of Toby's creek, which empties into the Allegany river, from the eaſt. This road will be through a tract of rich land, now for ſale by the ſtate. A road is alſo cutting from the mouth of the Tyoga, ſouthward, to the mouth of Loyal, a branch of the weſt branch of Suſque-

hannah. Another road is cutting from Huntingdon-town, or Franks-town branch of the Juniatta, weſtward thirty miles, to a navigable branch of the Allegany.

Thus the well judged policy of this ſtate, is paving the way for the ſettlement of all their waſte lands. And to evidence their benevolence, and their wiſhes to have the advantages of education increaſed, and more extenſively enjoyed, they have allotted 60,000 acres of theſe waſte lands for the uſe of public ſchools; and above 60,000 more have been granted for that purpoſe, and to the ſocieties eſtabliſhed for the promotion of knowledge, the arts, religion, &c.

In addition to the common obſervation, that the natural growth of this ſtate is ſimilar to that of New-Jerſey and New-York, which is indeed the caſe in moſt reſpects, it may be ſaid, that there are in Pennſylvania great bodies of ſugar-maple, particularly in the counties of Northampton, Luzerne, Northumberland, and Waſhington, which yield a well-taſted and wholeſome ſugar, to profit.

Cumberland and Franklin valley is timbered principally with locuſt, black walnut, hickory, and white oak. The mountainous parts are covered with pines, cheſnuts, &c.

The produce from culture, conſiſts of wheat, which is the ſtaple commodity of the ſtate, ſome rye, Indian corn, buck-wheat, oats, ſpeltz, barley, which is now raiſed in greater quantities than formerly, occaſioned by the vaſt conſumption of it by the breweries in Philadelphia, hemp, flax, and vegetables of all the various kinds common to the climate. Pennſylvania is a good grazing country, and great numbers of cattle are fed, and large dairies are kept; but their beef, pork, and cheeſe, are not reckoned ſo good as thoſe of Connecticut and the other parts of New-England; but their butter has been ſuppoſed to be ſuperior.

On the weſt ſide of the mountains, the weather is pretty regular. The inhabitants never feel thoſe quick tranſitions from cold to heat, by a change of the wind from north to ſouth, as thoſe ſo frequently experience, who live eaſtward of the mountains, and near the ſea. The hot ſouthwardly winds get chilled by paſſing over the long chain of Allegany mountains.

It has been obſerved that Pennſylvania is now more unhealthy than formerly; that bilious and remitting fevers, which a few years ago appeared chiefly in the neighbourhood of rivers, creeks, and mill-ponds, now appear in parts remote from them all, and in the higheſt ſituations. This change has been attributed to the increaſe of mill-ponds; till theſe were eſtabliſhed, intermittents, in ſeveral counties in Pennſylvania, were unknown: and to the clearing of the country. It has been remarked, that intermittents on the ſhores of the Suſquehannah, have kept an exact pace with the paſſages which have been opened to the propagation of marſh effluvia, by cutting down the wood which formerly grew in it's neighbourhood. A diſtinction, however, is to be made between clearing and cultivating a country. While clearing a country makes it ſickly in the manner that has been mentioned, cultivating a country, that is draining ſwamps, deſtroying weeds, burning bruſh, and exhaling the unwholeſome and ſuperfluous moiſture

ture of the earth, by means of frequent crops of grain, graſſes, and vegetables of all kinds, render it healthy. Several parts of the United States have preſſed through the ſeveral ſtages that have been deſcribed. The firſt ſettlers received their country in a ſtate of nature, pure and healthy. Fevers ſoon followed their improvements, nor were they finally baniſhed, until the higher degrees of cultivation took place. Nor even then, where the ſalutary effects of cultivation were rendered abortive by the neighbourhood of mill ponds.

It may be added, on this ſubject, that the migrants from Pennſylvania generally travel to the ſouthward. The ſoil and climate of the weſtern parts of Virginia, North and South Carolina, and Georgia, afford a more eaſy ſupport to indolent farmers, than the ſtubborn but durable ſoil of Pennſylvania. Here the ground requires deep and repeated ploughing, to render it fruitful; there ſcratching once or twice affords tolerable crops. In Pennſylvania, the length and coldneſs of the winter make it neceſſary for the farmers to beſtow a large ſhare of their labour in providing for, and feeding their cattle; but in the ſouthern ſtates, cattle find paſture during the greateſt part of the winter in the fields or woods.

The Literary, Humane, and other uſeful ſocieties, are more numerous and flouriſhing in Pennſylvania, than in any other of the ſtates.

441. *Delaware.*] The ſtate of Delaware is 92 miles in length, and 16 in breadth. It is bounded on the north, by the territorial line, (which is a circle deſcribed with a radius of 12 Engliſh miles, and whoſe centre is in the middle of the town of Newcaſtle,) which divides it from Pennſylvania; on the eaſt, by Delaware river and bay; on the ſouth, by a due eaſt and weſt line, from Cape Henlopen, in lat. 38 deg. 30 min. to the middle of the peninſula, which line divides the ſtate from Worceſter county in Maryland; and on the weſt, by Maryland, from which it is divided by a line drawn from the weſtern termination of the ſouthern boundary line, northwards up the ſaid peninſula, till it touch or form a tangent to the weſtern part of the periphery of the above-mentioned territorial circle: containing about 1400 ſquare miles.

In many parts the climate is unhealthy. The land is generally low and flat, which occaſions the waters to ſtagnate, and the conſequence is, that the inhabitants are ſubject to intermittents.

The rivers Choptank, Nanticok, and Pocomoke, all have their ſources in this ſtate, and are navigable for veſſels of 50 or 60 tons, 20 or 30 miles into the country. They all run a weſtwardly courſe into Cheſapeak bay. The eaſtern ſide of the ſtate, along Delaware bay and river, is indented with a great number of ſmall creeks, but none conſiderable enough to merit a deſcription.

The ſouth part of the ſtate is a low flat country, and a conſiderable portion of it lies in foreſt. What is under cultivation is chiefly barren, except in Indian corn, of which it produces fine crops. In ſome places, rye and flax may be raiſed, but wheat is a foreigner in theſe parts. Thick foreſts of pines are manufactured into boards here, and exported in large quantities into every ſea-port in the three adjoining ſtates. The ſoil is more fertile in the north, and produces wheat in

large quantities, which is the ſtaple commodity of the ſtate, and they raiſe all the other kinds of grain common to Pennſylvania. The ſtate has no mountain in it, except Thunder Hill, in the weſtern part of Newcaſtle county, and is generally level, except ſome ſmall parts, which are ſtony and uneven.

442. *Maryland.*] The ſtate of Maryland is 134 miles in length, and 110 in breadth. It is bounded on the north by Pennſylvania; on the eaſt, by the Delaware State; on the ſouth-eaſt and ſouth, by the Atlantic Ocean, and a line drawn from the ocean over the peninſula (dividing it from Accomac county in Virginia) to the mouth of of Patomac river; thence up the Patomac to it's firſt fountain; thence, by a due north line, till it interſects the ſouthern boundary of Pennſylvania, in lat. 39 deg. 43 min. 18 ſec. ſo that it has Virginia on the ſouth, ſouth-weſt, and weſt. It contains about 14,000 ſquare miles, of which about one-ſixth is water.

The climate is generally mild and agreeable, ſuited to agricultural productions; and here is a great variety of fruit trees. In the interior hilly country the inhabitants are healthy; but in the flat country, in the neighbourhood of the marſhes and ſtagnant waters, they are, as in the other ſouthern ſtates, ſubject to intermittents.

Cheſapeak Bay divides this ſtate into the eaſtern and weſtern diviſions. This bay, which is the largeſt in the United States, affords ſeveral good fiſheries; and, in a commercial view, is of immenſe advantage to the ſtate. It receives a number of the largeſt rivers in the United States. From the eaſtern ſhore in Maryland, among other ſmaller ones, it receives Pocomoke, Choptank, Cheſter, and Elk, rivers. From the north, the rapid Suſquehannah; and from the weſt, Patapſco, Severn, Patuxent, and Patomak, half of which is in Maryland, and half in Virginia. Except the Suſquehannah and Patomak, theſe are ſmall rivers. Patapſco river is but about 30 or 40 yards wide at the ferry, juſt before it empties into the baſon upon which Baltimore ſtands. It's ſource is in York county, in Pennſylvania, and it's courſe is ſouthwardly, till it reaches Elkridge landing, about 8 miles weſtward of Baltimore; it then turns eaſtward, in a broad bay-like ſtream, by Baltimore, which it leaves on the north, and paſſes into the Cheſapeak.

The Severn is a ſhort, inconſiderable river, paſſing by Annapolis, which it leaves to the ſouth, emptying, by a broad mouth, into the Cheſapeak-Bay.

The Patuxent is a larger river than the Patapſco. It riſes in Ann Arundel county, and runs ſouth-eaſtwardly, and then eaſt into the bay, 15 or 20 miles north of the mouth of Patomac. There are ſeveral ſmall rivers, ſuch as Wighcocomico, Eaſtern Branch, Monocaſy, and Conegocheague, which empty into Patomac river, from the Maryland ſide.

Eaſt of the blue ridge of mountains, which ſtretches acroſs the weſtern part of this ſtate, the land, like that in all the ſouthern ſtates, is generally level and free of ſtones, and appears to have been produced much in the ſame way; of courſe the ſoil muſt be ſimilar, and the natural growth not noticeably different.

The

The ſoil of the good land in Maryland, is of ſuch a nature and quality as to produce from 12 to 16 buſhels of wheat; or from 20 to 30 buſhels of Indian corn per acre. Ten buſhels of wheat, and 15 buſhels of corn per acre, may be the annual average crops in the ſtate at large.

Wheat and tobacco are the ſtaple commodities of Maryland, and in the interior country, on the uplands, conſiderable quantities of hemp and flax are raiſed.

Among other kinds of timber, is the oak of ſeveral kinds, which is of a ſtraight grain, and eaſily rives into ſtaves, for exportation. The black walnut is in demand for cabinets, tables, and other furniture. The apples of this ſtate are large, but mealy; their peaches plentiful and good. From theſe the inhabitants diſtil cyder brandy and peach brandy.

The foreſts abound with nuts of various kinds, which are collectively called maſt. On this maſt vaſt numbers of ſwine are fed, which run wild in the woods. Theſe ſwine, when fatted, are caught, killed, barrelled and exported in great quantities.

Mines of iron ore, of a ſuperior quality, are found in many parts of the ſtate. Furnaces for running this ore into pigs and hollow ware, and forges to refine pig iron into bars, have been erected in a number of places in the neighbourhood of the mines. This is the only manufacture of importance, carried on in the ſtate, except it be that of wheat into flour.

The trade of Maryland is principally carried on from Baltimore with the other ſtates, with the Weſt Indies, and with ſome parts of Europe. To theſe places they ſend annually about 30,000 hogſheads of tobacco, beſides large quantities of wheat, flour, pig iron, lumber and corn, beans, pork, and flax-ſeed in ſmaller quantities; and receive in return cloathing and other dry goods, wines, ſpirits, ſugars, and other Weſt India commodities. The balance of trade is generally in their favour.

443. *Virginia.*] The ſtate of Virginia is 758 miles in length, and 224 in breadth. It is bounded on the eaſt, by the Atlantic Ocean; on the north, by Pennſylvania, and the river Ohio; on the weſt, by the Miſſiſſippi; and on the ſouth, by North-Carolina.

This ſtate is interſected by long and large rivers, in a way very favourable to navigation. Patomac is $7\frac{1}{2}$ miles wide at the mouth; $4\frac{1}{2}$ at Nomony Bay; 3 at Aquia; $1\frac{1}{2}$ at Hallooing Point; $1\frac{1}{4}$ at Alexandria. It's ſoundings are 7 fathom at the mouth; 5 at St. George's iſland; $4\frac{1}{2}$ at Lower Matchodic; 3 at Swan's Point, and thence up to Alexandria; thence 10 feet water to the falls, which are 13 miles above Alexandria.

The diſtance from the Capes of Virginia to the termination of the tide-water in this river is above 300 miles; and navigable for ſhips of the greateſt burthen, nearly to that place.

The mountains commence at about 150 miles from the ſea coaſt, and are diſpoſed in ridges one behind another, running nearly parallel with the ſea coaſt, though rather approaching it, as they advance north eaſtwardly. To the ſouth-weſt, as the tract of country between the

ſea coaſt and the Miſſiſſippi becomes narrower, the mountains converge into a ſingle ridge, which, as it approaches the Gulf of Mexico, ſubſides into plain country, and gives riſe to ſome of the waters of that Gulf, and particularly to a river called the Apalachicola, probably from the Apalachies, an Indian nation formerly reſiding on it. Hence the mountains giving riſe to that river, and ſeen from it's various parts, were called the Apalachian Mountains, being in fact the end, or termination only, of the great ridges paſſing through the continent.

In the weſtern country, we are told of iron mines between the Muſkingum and Ohio; of others on Kentucky, between the Cumberland and Barren rivers, between Cumberland and Tenniſſee, on Reedy creek, near the Long Iſland, and on Cheſnut creek, a branch of the Great Kanhaway, near where it croſſes the Carolina line.

Conſiderable quantities of black lead are taken occaſionally for uſe from Winterham, in the county of Amelia. There is no work eſtabliſhed at it, thoſe who want, going and procuring it for themſelves.

The country on James river, from 15 to 20 miles above Richmond, and for ſeveral miles northward and ſouthward, is replete with mineral coal of a very excellent quality. Being in the hands of many proprietors, pits have been opened, and, before the interruption of commerce, were worked to an extent equal to the demand.

In the weſtern country, coal is known to be in ſo many places, as to have induced an opinion, that the whole tract between the Laurel Mountain, Miſſiſſippi, and Ohio, yields coal. It is alſo known in many places on the north ſide of the Ohio. The coal at Pittſburg is of a very ſuperior quality. A bed of it at that place has been on fire ſince the year 1765. Another coal hill on the Pike Run of Monongahela has been on fire ten years: yet it has burnt away about 20 yards only.

In an extenſive country, it will be expected that the climate is not the ſame in all it's parts. It is remarkable that, proceeding on the ſame parallel of latitude weſtwardly, the climate becomes colder in like manner as when we proceed northwardly. This continues to be the caſe, till we attain the ſummit of the Allegany, which is the higheſt land between the ocean and the Miſſiſſippi. From thence deſcending in the ſame latitude to the Miſſiſſippi, the change reverſes; and it becomes warmer there than it is in the ſame latitude on the ſea ſide. Vegetables and animals ſubſiſt and multiply there naturally, which do not on the ſea coaſt. Thus catalpas grow ſpontaneouſly on the Miſſiſſippi, as far as the latitude of 37 deg. and reeds as far as 38 deg. Parroquets even winter on the Sioto, in the 39th degree of latitude. In the ſummer of 1779, when the thermometer was at 90 deg. at Monticello, and 96 deg. at Williamſburg, it was 110 deg. at Kaſkaſkia. It is thought that the mountain, which overhangs this village on the north ſide, may, by it's reflection, have contributed ſomewhat to produce this heat.

444. *Kentucky.*] Kentucky is 250 miles in length, and 200 in breadth. It is bounded on the north-weſt by the river Ohio; on the weſt by Cumberland river; on the ſouth, by North Carolina; and on the

the eaſt, by Sandy river, and a line drawn due ſouth from it's ſource, till it ſtrikes the northern boundary of North Carolina.

The river Ohio waſhes the north-weſt ſide of Kentucky, in it's whole extent. It's principal branches, which water this fertile tract of country, are Sandy, Licking, Kentucky, Salt, Green, and Cumberland rivers. Theſe again branch, in various directions, into rivulets of different magnitudes, fertilizing the country in all it's parts. At the bottom of theſe water-courſes, the lime-ſtone rock, which is common to this country, appears of a greyiſh colour; and where it lies expoſed to the air, in it's natural ſtate, it looks like brown free-ſtone. On the banks of theſe rivers and rivulets, this ſtone has the appearance of fine marble, being of the ſame texture, and it is found in the greateſt plenty.

A tract of about 20 miles wide, along the banks of the Ohio, is hilly, broken land, interſperſed with many fertile ſpots. The reſt of the country is agreeably uneven, gently aſcending and deſcending at no great diſtances.

The accounts of the fertility of the ſoil in this country have, in ſome inſtances, exceeded belief; and probably have been exaggerated.

That ſome parts of Kentucky, particularly the high grounds, are remarkably good, all accounts agree. The lands of the firſt rate are too rich for wheat, and will produce 50 and 60, and in ſome inſtances, it is affirmed, 100 buſhels of good corn, an acre. In common, the land will produce 30 buſhels of wheat or rye an acre. Barley, oats, cotton, flax, hemp, and vegetables of all kinds, common in this climate, yield abundantly. The old Virginia planters ſay, that if the climate does not prove too moiſt, few ſoils known will yield more and better tobacco.

Here is plenty of buffalo and catfiſh of uncommon ſize, ſalmon, mullet, rock, perch, garfiſh, eel, ſuckers, ſunfiſh, &c. Trout, ſhad, and herrings have not been caught in the weſtern waters.

Swamps are rare in Kentucky; and of courſe, the reptiles, which they produce, ſuch as ſnakes, frogs, &c. are not numerous. The honey-bee may be called a domeſtic inſect, as it is not found but in civilized countries. This is confirmed by a ſaying which is ſaid to be common among the Indians, when they ſee a ſwarm of bees in the woods, "Well, brothers, it is time for us to decamp, for the white people are coming."

The quadrupeds, except the buffalo, are the ſame as in Virginia and Carolinas.

The climate is healthy, ſome few places, in the neighbourhood of ponds and low grounds, excepted. The inhabitants do not experience the extremes of heat and cold. Snow ſeldom falls deep, or lies long. The winter is never longer than three months, and is commonly but two, and is ſo mild, generally, that cattle can ſubſiſt without fodder.

The progreſs in improvements and cultivation which have been made in this country, almoſt exceeds belief. Eleven years ago, Kentucky lay in foreſt, almoſt uninhabited but by wild beaſts. Now, it exhibits an extenſive ſettlement, divided into ſeven large and populous counties, in which are a number of flouriſhing little towns, containing

more inhabitants than are in Georgia, Delaware, or Rhode-Iſland ſtates—and nearly or quite as many as in New-Hampſhire. An inſtance of the like kind, where a ſettlement has had ſo large and rapid a growth, can ſcarcely be produced from the page of hiſtory.

445. *North Carolina.*] The ſtate of North Carolina is 758 miles in length, and 110 in breadth. It is bounded on the north by Virginia; on the eaſt by the Atlantic Ocean; on the ſouth by South-Carolina and Georgia; and on the weſt by the Miſſiſſippi.

North Carolina, in it's whole width, for 60 miles from the ſea, is a dead level. A great proportion of this tract lies in foreſts, or is barren. On the banks of ſome of the rivers, particularly of the Roanoke, the land is fertile and good. Interſperſed through the other parts are glades of rich ſwamp, and ridges of oak land, of a black, fertile ſoil. In all this champaign country, marine productions are found by digging 18 or 20 feet below the ſurface of the ground. The ſea coaſt, the ſounds, inlets, and lower parts of the rivers, have uniformly a muddy, ſoft bottom. Sixty and eighty miles from the ſea the country riſes into hills and mountains, as in South Carolina and Georgia.

That part of North Carolina which lies weſt of the mountains, a tract about 500 miles in length, eaſt and weſt, and upwards of 100 in breadth, (except the Cumberland Barrens, and ſome broken lands) is a fine fertile country, watered by the broad Tenneſſee, and abounds with oaks, locuſt-trees of ſeveral kinds, walnut, elm, linn, and cherry-trees; ſome of which are three feet in diameter.

Wheat, rye, barley, oats, and flax grow well in the back hilly country. Indian corn and pulſe of all kinds in all parts. Ground peas run on the ſurface of the earth, and are covered by hand with a light mould, and the pods grow under ground. They are eaten raw or roaſted, and taſte much like a hazlenut. Cotton is alſo conſiderably cultivated here, and might be raiſed in much greater plenty. It is planted yearly: the ſtalk dies with the froſt.

A great proportion of the produce of the back country, conſiſting of tobacco, wheat, Indian corn, &c. is carried to market in South Carolina and Virginia. The inhabitants of ſouthern interior counties carry their produce to Charleſton; and thoſe of the northern to Peterſburg, in Virginia. The exports from the lower parts of the ſtate, are, tar, pitch, turpentine, roſin, Indian corn, boards, ſcantling, ſtaves, ſhingles, furs, tobacco, pork, lard, tallow, bees-wax, myrtle-wax, and a few other articles. Their trade is chiefly with the Weſt-Indies, and the northern ſtates. From the latter they receive flour, cheeſe, cyder, apples, potatoes, iron wares, cabinet wares, hats, and dry goods of all kinds imported from Great-Britain, France, and Holland, teas, &c. From the Weſt Indies, rum, ſugar, and coffee.

In the flat country, near the ſea-coaſt, the inhabitants, during the ſummer and autumn, are ſubject to intermitting fevers, which often prove mortal, as bilious or nervous ſymptoms prevail. Theſe fevers are ſeldom immediately dangerous to the natives, who are temperate; or to ſtrangers, who are prudent. They, however, if ſuffered to continue for any length of time, bring on other diſorders, which greatly impair

impair the natural vigour of the mind, debilitate the conſtitution, and terminate in death. The countenances of the inhabitants, during theſe ſeaſons, have generally a pale yellowiſh caſt, occaſioned by the prevalence of bilious ſymptoms. They have very little of the bloom and freſhneſs of the people in the northern ſtates.

The weſtern hilly parts of the ſtate are as healthy as any of the United States. That country is fertile, full of ſprings, and rivulets of pure water. The air there is ſerene a great part of the year, and the inhabitants live to old age, which cannot ſo generally be ſaid of the inhabitants of the flat country. Though the days in ſummer are extremely hot, the nights are cool and refreſhing. Autumn is very pleaſant, both in regard to the temperature and ſerenity of the weather, and the richneſs and variety of the vegetable productions which the ſeaſon affords. The winters are ſo mild in ſome years, that autumn may be ſaid to continue till ſpring.

The large natural growth of the plains, in the low country, is almoſt univerſally pitch pine, which is a tall, handſome tree, far ſuperior to the pitch pine of the northern ſtates. This tree may be called the ſtaple commodity of North Carolina. It affords pitch, tar, turpentine, and various kinds of lumber, which, together, conſtitute, at leaſt, one-half of the exports of this ſtate.

The miſſetoe is common in the back country. This is a ſhrub which differs in kind, perhaps, from all others. It never grows out of the earth, but on the tops of trees. The roots, if they may be ſo called, run under the bark of the tree, and incorporate with the wood. It is an ever-green, reſembling the garden box-wood.

The principal wild fruits are plums, grapes, ſtrawberries, and blackberries.

The country is generally covered with herbage of various kinds, and a ſpecies of wild graſs. It abounds with medicinal plants and roots. Among others are the ginſeng. Virginia ſnake-root, Seneca ſnake-root, an herb of the emetic kind, like the ipecacuanha. Lyon's heart, which is a remedy for the bite of a ſerpent. A ſpecies of the ſenſitive plant is alſo found here; it is a ſort of brier, the ſtalk of which dies with the froſt, but the root lives through the winter, and ſhoots again in the ſpring: the ſlighteſt touch of a leaf cauſes it to turn and cling cloſe to the ſtalk: but in the ſpace of two minutes after it is touched, it perfectly recovers it's former ſituation. The mucipula veneris is alſo found here. The rich bottoms are overgrown with canes: their leaves are green all the winter, and afford an excellent food for cattle: they are of a ſweetiſh taſte, like the ſtalks of green corn, which they in many reſpects reſemble.

446. *South Carolina.*] The ſtate of South Carolina is 200 miles in length, and 125 in breadth. It is bounded on the eaſt by the Atlantic Ocean; on the north by North-Carolina; on the ſouth-weſt and ſouth by Savannah river, which divides it from Georgia. The weſtern boundary has not yet, with accuracy, been aſcertained.

The climate is different in different parts of the ſtate. Along the ſea-coaſt, bilious diſeaſes and fevers of all kinds are prevalent in ſummer.

mer. One cauſe of theſe diſeaſes is, a low, marſhy country, which is overflowed for the ſake of cultivating rice. The exhalations from theſe ſtagnated waters, from the rivers, and from the neighbouring ocean, and the profuſe perſpiration of vegetables of all kinds, which cover the ground, fill the air with moiſture. This moiſture falls in frequent rains, and copious dews. From actual obſervation it was found that the average annual fall of rain, for ten years, was 42 inches; without regarding the moiſture that fell in fogs and dews. The great heat of the day relaxes the body, and the agreeable coolneſs of the evening invites to an expoſure to theſe heavy dews. But a ſecond, and probably a more operative cauſe in producing diſeaſes, is the indolence of the inhabitants. On this, it is thought, more than on any unavoidable injurious qualities in the air, are chargeable the diſeaſes ſo common in this country. The upper country, ſituated in the medium, between heat and cold, is as healthful as any part of the United States.

This ſtate is watered by four large, navigable rivers, beſides a great number of ſmaller ones, which are paſſable in boats.

The ſea coaſt is bordered with a chain of fine ſea-iſlands, around which the ſea flows, opening an excellent inland navigation for the conveyance of produce to market. The ſoil and natural growth of theſe iſlands are not noticeably different from the adjacent main land. They are in general favourable for the culture of indigo.

The whole ſtate, to the diſtance of 80 miles from the ſea, is nearly level, and almoſt without a ſtone. In this diſtance, by a gradual aſcent from the ſea-coaſt, the land riſes about 190 feet. Here commences a curiouſly uneven country. The traveller, in paſſing along, is conſtantly aſcending or deſcending little ſand-hills. If a pretty high ſea were ſuddenly arreſted, and transformed into ſand-hills, in the very form the waves exiſted at the moment of transformation, it would preſent the eye with juſt ſuch a view as is here to be ſeen. Some little herbage, and a few ſmall pines grow even on this ſoil. The inhabitants are few, and have but a ſcanty ſubſiſtence on corn and ſweet potatoes, which grow here tolerably well. This curious country continues for 60 miles to *The Ridge*, 140 miles from Charleſton. This ridge is a remarkable tract of high ground, as it is approached from the ſea; but level, as we advance north-weſt from it's ſummit. It is a fine, high, healthy belt of land, well watered, and of a good ſoil, and extends from the Savannah to Broad River. Beyond this ridge, commences a country exactly reſembling the northern ſtates. Here hills and dales, with all their verdure and variegated beauty, preſent themſelves to the eye. Wheat fields, which are rare in the low country, begin to grow common. The air is much more temperate and healthful than nearer to the ſea. The hills are covered with valuable woods—the vallies watered with beautiful rivers, and the fertility of the ſoil is equal to every vegetable production. This, by way of diſtinction, is called the upper country, where are different modes and different articles of cultivation; where the manners of the people, and even their language, have a different tone. The land ſtill riſes by a gradual aſcent; each ſucceeding hill overlooks that which immediately precedes it, till, having advanced 220 miles in a north-weſt direction from Charleſton,

Charleſton, the elevation of the land above the ſea-coaſt is found by menſuration to be about 800 feet. Here commences a mountainous country, which continues riſing to the weſtern terminating point of this ſtate.

The ſoil may be divided into four kinds, firſt, the *Pine-barren*, which is valuable only for it's timber. Interſperſed among the pine-barren, are tracts of land free of timber, and of every kind of growth but that of graſs. Theſe tracts are called *Savannas*, conſtituting a ſecond kind of ſoil, good for grazing. The third kind is that of the *ſwamps* and *low grounds* on the rivers, which is a mixture of black loam and fat clay, producing naturally canes in great plenty, cypreſs, bays, &c. In theſe ſwamps rice is cultivated, which conſtitutes the ſtaple commodity of the ſtate. The *high-lands*, commonly known by the name of oak and hiccory lands, conſtitute the fourth kind of ſoil. The natural growth is oak, hiccory, walnut, pine, and locuſt. On theſe lands, in the low country, are cultivated, Indian corn, principally; and in the back country, they raiſe tobacco in large quantities, wheat, rye, barley, oats, hemp, flax, cotton, and ſilk.

At the diſtance of about 110 miles from the ſea, the river ſwamps for the culture of rice terminate, and the high lands extend quite to the rivers, and form banks in ſome places, ſeveral hundred feet high from the ſurface of the water, and afford many extenſive and beautiful views. Theſe high banks are interwoven with layers of leaves and different-coloured earth, and abound with quarries of free-ſtone, pebbles, flint, cryſtals, iron ore in abundance, ſilver, lead, ſulphur, and coarſe diamonds.

The literature of the ſtate is at a low ebb. Since the peace, however, it has begun to flouriſh. There are ſeveral flouriſhing academies in Charleſton—one at Beaufort, on Port-Royal Iſland—and ſeveral others in different parts of the ſtate.

447. *Georgia.*] The ſtate of Georgia is 600 miles in length and 250 in breadth. It is bounded on the eaſt by the Atlantic Ocean; on the ſouth by Eaſt and Weſt Floridas; on the weſt by the river Miſſiſſippi; and on the north and north-eaſt by South Carolina, and by lands ceded to the United States by South Carolina.

Savannah river forms a part of the diviſional line, which ſeparates this ſtate from South Carolina. It's courſe is nearly from north-weſt to ſouth-eaſt. It is formed principally of two branches, by the names of Tugulo and Keowee, which ſpring from the mountains.

In ſome parts of this ſtate, at particular ſeaſons of the year, the climate cannot be eſteemed ſalubrious. In the low country, near the rice ſwamps, billious complaints and fevers of various kinds are pretty univerſal during the latter part of ſummer.

The diſorders peculiar to this climate, originate chiefly from the badneſs of the water, which is generally brakiſh, and from the noxious vapours which are exhaled from ſtagnant waters in the rice ſwamps. Beſides, the long continuance of warm weather produces a general relaxation of the nervous ſyſtem, and as they have no neceſſary labour to call them to exerciſe, a large ſhare of indolence is the natural conſequence;

ſequence: and indolence, eſpecially among a luxurious people, is ever the parent of diſeaſe, and the immenſe quantities of ſpirituous liquors, which are uſed to correct the brakiſhneſs of the water, form a ſpecies of intemperance, which often proves ruinous to the conſtitution.

Before the ſickly ſeaſon commences, many of the rich planters of this ſtate remove with their families to the ſea iſlands, or ſome elevated healthy ſituation, where they reſide three or four months, for the benefit of freſh air. In the winter and ſpring pleuriſies, peripneumonies, and other inflammatory diſorders, occaſioned by ſudden and violent colds, are ſometimes common, and frequently mortal. Conſumptions, epilepſies, cancers, palſies and appoplexies, are not ſo incident to the inhabitants of the ſouthern as northern climates.

The winters in Georgia are generally very mild and pleaſant. Snow is ſeldom or never ſeen. Vegetation is not frequently prevented by ſevere froſts. Cattle ſubſiſt tolerably well through the winter, without any other food than what they obtain in the woods and ſavannas, and are fatter in that ſeaſon than in any other. In the hilly country, which begins about 80 or 100 miles from the ſea, the air is pure and ſalubrious, and the water plenty and good. In the flat country there is here and there a ſpring only, which is clear and pretty good. Neither is the air ſo pure here as in the hilly country, being more confined, and leſs ſubject to agitations from the winds, and withal impregnated with putrid vapours from the rice ſwamps.

In the ſouth-eaſt parts of this ſtate, which lie within a few degrees of the torrid zone, the atmoſphere is kept in motion by impreſſions from the trade winds. This ſerves to purify the air, and renders it fit for reſpiration; ſo that it is found to have a very advantageous effect on perſons of conſumptive habits.

The eaſtern part of the ſtate, between the mountains and the ocean, and the rivers Savannah and St. Mary's, a tract of country more than 120 miles from north to ſouth, and 40 or 50 eaſt and weſt, is generally level, without hill or ſtone. At the diſtance of about 40 or 50 miles from the ſea-board, or ſalt-march, the lands begin to be more or leſs uneven. The ridges gradually riſe one above another into hills, and the hills ſucceſſively increaſing in height, till they finally terminate in mountains. That vaſt chain of mountains which commences with Katt's Hill, near Hudſon's river, in the ſtate of New-York, known by the names of the Allegany and Apalachian mountains, terminate in this ſtate, about 60 miles ſouth of it's northern boundary.—From the foot of this mountain ſpreads a wide extended plain, of the richeſt ſoil, and in a latitude and climate favourably adapted to the cultivation of moſt of the Eaſt-India productions.

The ſoil and it's fertility are various, according to ſituation and different improvement. The iſlands on the ſea-board, in their natural ſtate, are covered with a plentiful growth of pine, oak, and hiccory, live oak, and ſome red cedar. The ſoil is a mixture of ſand and black mould, making what is commonly called a grey ſoil. A conſiderable part of it, particularly that whereon grow the oak, hiccory, and live oak, is very fertile, and yields on cultivation

cultivation good crops of indigo, corn, and potatoes. Theſe iſlands are ſurrounded by navigable creeks, between which and the main land is a large extent of ſalt marſh, fronting the whole ſtate, not leſs, on an average, than four or five miles in breadth, interſected with creeks in various directions, admitting, through the whole, an inland navigation between the iſlands and main-land, from the north-eaſtward to the ſouth-eaſtward corners of the ſtate. The ſoil of the main-land, adjoining the marſhes and creeks, is nearly of the ſame quality with that of the iſlands; except that which borders on thoſe rivers and creeks which ſtretch far back into the country. On theſe, immediately after the ſalts, begin the valuable rice ſwamps, which, on cultivation, afford the preſent principal ſtaple of commerce. The moſt of the rice lands lie on rivers, which, as far as the tide flows, are called tide lands, or on creeks and particular branches of water, flowing in ſome deeper or lower parts of the lands, which are called inland ſwamps, and extend back in the country from 15 to 25 miles, beyond which very little rice is planted, though it will grow exceedingly well, as experiment has proved, 120 miles back from the ſea. The intermediate lands, between theſe creeks and rivers, are of an inferior quality, being of a grey ſoil, covered chiefly with pine, and a ſort of wild graſs and ſmall reeds, which afford a large range of feeding ground for cattle, both ſummer and winter. Here and there, are interſperſed oak and hiccory ridges, which are of a better ſoil, and produce good crops of corn, and alſo indigo; but theſe are very little elevated above the circumjacent lands. The lands adjoining the rivers are nearly level, and, for a hundred miles in a direct line from the ſea, continue a breadth from 2 to 3 or 4 miles.

In this ſtate are produced by culture, rice, indigo, cotton, ſilk, (though not in large quantities) Indian corn, potatoes, oranges, figs, pomegranates, &c. Rice, at preſent, is the ſtaple commodity; and as a ſmall proportion only of the rice ground is under cultivation, the quantity raiſed in future muſt be much greater than at preſent. But the rapid increaſe of the inhabitants, chiefly by emigrations, whoſe attention is turned to the raiſing of tobacco, and the vaſt extent of land, with a richneſs of ſoil ſuited to the culture of that plant, renders it probable, that tobacco will ſhortly become the ſtaple of this ſtate.

The tobacco lands are equally well adapted to wheat, which may hereafter make an important article of commerce.

On the dry plains, grow large crops of ſweet potatoes, which are found to afford a wholeſome nouriſhment, and from which is made, by diſtillation, a kind of whiſky, tolerably good, but inferior to that made from rye. It is by properly macerating and waſhing this root, that a ſediment or ſtarch is made, which has obtained the name of ſago, and anſwers all the purpoſes of the India ſago.

Moſt of the tropical fruits would flouriſh in this ſtate with proper attention. The rice plant has been, and the tea plant, of which ſuch immenſe quantities are conſumed in the United States, it is thought may be tranſplanted with equal advantage. The latitude, the ſoil, and the temperature of climate, all invite to make the experiment.

From-

From many conſiderations, it is thought, that the ſouth-weſtern part of this ſtate, and the parts of Eaſt and Weſt Florida, which lie adjoining, will, in a few years, become the vineyard of America.

The chief articles of export from this ſtate are rice, tobacco, indigo, ſago, lumber of various kinds, naval ſtores, leather, deer ſkins, ſnake-root, myrtle, bees-wax, corn, live ſtock, &c. The value of the exports from this ſtate in 1772, was £121,677 ſterling. The number of veſſels employed this year was 217, whoſe tonnage was 11,246.

In return for the numerated exports, are imported Weſt-India goods, teas, wines, various articles of clothing, and dry goods of all kinds.—From the northern ſtate, cheeſe, fiſh, potatoes, apples, cyder and ſhoes. The imports and exports of this ſtate are to and from Savannah, which has a fine harbour, and is a place where the princial commercial buſineſs of the ſtate is tranſacted. The manufactures of this ſtate have hitherto been very inconſiderable, if we except indigo, ſilk, and ſago. In 1766, 1084 lbs. of raw ſilk were exported. So large a quantity, however, has not been exported in any one year before or ſince. The culture of ſilk and the manufacture of ſago, are at preſent but little attended to. The people in the lower part of this ſtate manufacture ſcarcely any of their own clothing. For almoſt every article of their wearing apparel, as well as for their huſbandry tools, they depend on their merchants, who import them from Great-Britain and the northern ſtates. In the upper part of the country, however, the inhabitants manufacture the chief part of their cloathing from cotton and from flax.

448. *Weſtern Territory.*] Under this name is comprehended all that part of the United States which lies north-weſt of the Ohio. Bounded weſt by the Miſſiſſippi river; north, by the Lakes; eaſt, by Pennſylvania; ſouth-eaſt and ſouth, by the Ohio river: containing, 411,000 ſquare miles, equal to 263,040,000 acres; from which, if we deduct 43,040,000 acres for water, there will remain 220,000,000 of acres claimed by the federal government, to be ſold for the diſcharge of the national debt; except a narrow ſtrip of land, bordering on the ſouth of Lake Erie, and ſtretching 120 miles weſt of the weſtern limit of Pennſylvania, which belongs to Connecticut.

The *Muſkingum* is a gentle river, confined by banks ſo high as to prevent it's overflowing. It is 250 yards wide at it's confluence with the Ohio, and navigable by large batteaux and barges to the Three Legs; and, by ſmall ones, to the lake at it's head. From thence, by a portage of about one mile, a communication is opened to Lake Erie, through the Cayahoga, which is a ſtream of great utility, navigable the whole length, without any obſtruction from falls. From Lake Erie the avenue is well known to the Hudſon, in the ſtate of New York.

The *Hockhocking* reſembles the Muſkingum, though ſomewhat inferior in ſize. It is navigable for large boats about 70 miles, and for ſmall ones much farther. On the banks of this very uſeful ſtream are found immenſe quarries of free-ſtone, large beds of iron ore, and ſome rich mines of lead. Coal mines and ſalt-ſprings are frequent in

the neighbourhood of this ſtream, as they are in every part of the Weſtern Territory. The ſalt that may be obtained from thoſe ſprings will afford a ſtore of that neceſſary article. Beds of white and blue clay, of an excellent quality, are likewiſe found here, ſuitable for the manufacture of glaſs, crockery, and other earthen-wares. Red bole, and many other uſeful foſſils have been obſerved on the branches of this river.

The *Sioto* is a larger river than either of the preceding, and opens a more extenſive navigation. It is paſſable for large barges for 200 miles, with a portage of only four miles to the Sanduſky, a good navigable ſtream, that falls into the Lake Erie. Through the Sanduſky and Sioto lies the moſt common paſs from Canada to the Ohio and Miſſiſſippi; one of the moſt extenſive and uſeful communications that are to be found in any country. Prodigious extenſions of territory are here connected; and, from the rapidity with which the weſtern parts of Canada, Lake Erie, and the Kentucky counties are ſettling, we may anticipate an immenſe intercourſe between them. The lands on the borders of theſe middle ſtreams, from this circumſtance alone, beſides their natural fertility, muſt be rendered vaſtly valuable. There is no doubt, but flour, corn, flax, hemp, &c. raiſed for exportation in that great country between the Lakes Huron and Ontario, will find an eaſier outlet through Lake Erie and theſe rivers, than in any other direction. The Ohio merchant can give a higher price than thoſe of Quebec, for theſe commodities; as they may be tranſported from the former to Florida and the Weſt India Iſlands, with leſs expence, riſk, and inſurance, than from the latter; while the expence from the place of growth to the Ohio will not be one fourth of what it would be to Quebec, and much leſs than even to the Oneyda lake. The ſtream of Sioto is gentle, no where broken by falls: at ſome places, in the ſpring of the year, it overflows it's banks, providing for large natural rice plantations. Salt ſprings, coal mines, white and blue clay, and free-ſtone, abound in the country adjoining this river.

The *Little Miami* is too ſmall for batteaux navigation. It's banks are good land, and ſo high as to prevent, in common, the overflowing of the water.

The *Great Miami* has a very ſtony channel, and a ſwift ſtream, but no falls. It is formed of ſeveral large branches, which are paſſable for boats a great diſtance. One branch comes from the weſt, and riſes in the Wabaſh country; another riſes near the head waters of Miami river, which runs into Lake Erie; and a ſhort portage divides another branch, from the weſt branch of Sanduſky river.

The *Wabaſh* is a beautiful river, with high and fertile banks. It empties into the Ohio, by a mouth 270 yards wide, 1020 miles below Fort Pitt. In the ſpring, ſummer, and autumn, it is paſſable with batteaux drawing three feet water, 412 miles, to Ouitanon, a ſmall French ſettlement, on the weſt ſide of the river; and for large canoes 197 miles further, to the Miami carrying place, 9 miles from Miama village. This village ſtands on Miami river, which empties into the ſouth-weſt part of Lake Erie. The communication between Detroit, and the Illinois and Ohio countries, is down Miami river to Miami village,

village, thence, by land, 9 miles when the rivers are high—and from 18 to 30 when they are low, through a level country, to the Wabaſh, and through the various branches of the Wabaſh to the places of deſtination.

A ſilver mine has been diſcovered about 28 miles above Ouitanon, on the northern ſide of the Wabaſh. Salt ſprings, lime, free-ſtone, blue, yellow, and white clay are found in plenty upon this river.

The rivers *A Vaſe* and *Kaſkaſkias* empty into the Miſſiſſippi from the north-eaſt: the former is navigable for boats 60, and the latter about 130 miles. They both run through a rich country, which has extenſive meadows.

Between the Kaſkaſkias and Illinois rivers, which are 84 miles apart, is an extenſive tract of level, rich land, which terminates in a high ridge, about 15 miles ſhort of the Illinois river. In this delightful vale are a number of French villages, which, together with thoſe of St. Genevieve and St. Louis, on the weſtern ſide of the Miſſiſſippi, contained in 1771, 1,273 active men.

One hundred and ſeventy-ſix miles above the Ohio, and 18 miles above the Miſſouri, the Illinois empties into the Miſſiſſippi from the north-eaſt by a mouth about 400 hundred yards wide. This river is bordered with fine meadows, which in ſome places extend as far as the eye can reach: This river furniſhes a communication with Lake Machigan, by the Chicago river, between which and the Illinois, are two portages, the longeſt of which does not exceed 4 miles. It receives a number of rivers which are from 20 to 100 yards wide, and navigable for boats from 15 to 180 miles. On the north-weſtern ſide of this river is a coal mine, which extends for half a mile along the middle of the bank of the river. On the eaſtern ſide, about half a mile from the river, and about the ſame diſtance below the coal mine, are two ſalt ponds, 100 yards in circumference, and ſeveral feet in depth. The water is ſtagnant, and of a yellowiſh colour; but the French and natives make good ſalt from it. The ſoil of the Illinois country is, in general, of a ſuperior quality—it's natural growth are oak, hiccory, cedar, mulberry, &c. hops, dying drugs, medicinal plants of ſeveral kinds, and excellent wild grapes. In the year 1769, the French ſettlers made 110 hogſheads of ſtrong wine from theſe grapes.

There are many other rivers of equal ſize and importance with thoſe deſcribed, which are not ſufficiently known for accurate deſcriptions.

The population of this country is eſtimated at about 6000, excluſive of Indians. This number is made up of French and Engliſh emigrants from the original ſtates, and negroes

The country on the Ohio is every where pleaſant, with large level ſpots of rich land; and remarkably healthy. One general remark of this nature will ſerve for the whole tract of the globe comprehended between the weſtern ſkirts of the Allegany mountains; thence running ſouthweſtwardly to the diſtance of 500 miles to the Ohio falls; then croſſing them northerly to the heads of the rivers that empty themſelves into the Ohio; thence eaſt along the ridge that ſeparates the lakes and Ohio's ſtreams, to French creek.—This country may, from a proper knowledge

knowledge, be affirmed to be the moſt healthy, the moſt pleaſant, the moſt commodious and moſt fertile ſpot of earth, known to the European people.

The lands that feed the various ſtreams which fall into the Ohio, are interſperſed with all the variety of ſoil which conduces to pleaſantneſs of ſituation, and lays the foundation for the wealth of an agricultural and manufacturing people. Large level bottoms, or natural meadows, from 20 to 50 miles in circuit, are every where found bordering the rivers, and variegating the country in the interior parts. Theſe afford as rich a ſoil as can be imagined, and may be reduced to proper cultivation with very little labour. It is ſaid, that in many of theſe bottoms a man may clear an acre a day, fit for planting with Indian corn; there being no under-wood; and the trees, growing very high and large, but not thick together, need nothing but girdling.

The more uſeful trees are, maple or ſugar tree, ſycamore, black and white mulberry, black and white walnut, butternut, cheſnut, white, black, Spaniſh and cheſnut oaks, hiccory, cherry, buckwood, honey locuſt, elm, horſe cheſnut, cucumber tree, lynn tree, gum tree, iron wood, aſh, aſpin, ſaſſafras, crab apple tree, paupaw or cuſtard apple, a variety of plum trees, nine bark ſpice, and leather wood bruſhes. A black walnut tree meaſured near the Muſkingum, at 5 feet from the ground, 22 feet in circumference. A ſycamore near the ſame place, meaſures 44 feet in circumference, at ſome diſtance from the ground. White and black oak, and cheſnut, with moſt of the above-mentioned timbers, grow large and in great plenty upon the high grounds. Both the high and low lands produce vaſt quantities of natural grapes of various kinds, of which the ſettlers univerſally make a ſufficiency for their own conſumption of rich red wine. It is aſſerted in the old ſettlement of St. Vincent's, where they have had opportunity to try it, that age will render this wine preferable to moſt of the European wines. Cotton is the natural production of this country, and grows in great perfection.

The ſugar-maple is a moſt valuable tree for an inland country. Any number of inhabitants may be conſtantly ſupplied with a ſufficiency of ſugar, by preſerving a few trees for the uſe of each family. A tree will yield about ten pounds of ſugar a year, and the labour is very trifling: the ſap is extracted in Second and Third months, and granulated, by the ſimple operation of boiling, to a ſugar equal in flavour and whiteneſs to the beſt Muſcovado.

Springs of excellent water abound in every part of this territory: and ſmall and large ſtreams for mills and other purpoſes, are actually interſperſed, as if by art, that there might be no deficiency in any of the conveniences of life.

Very little waſte land is to be found in any part of this tract of country. There are no ſwamps; and though the hills are frequent, they are gentle and ſwelling, no where high, nor incapable of tillage. They are of a deep rich ſoil, covered with a heavy growth of timber, and well adapted to the production of wheat, rye, indigo, tobacco, &c.

The deſign of Congreſs and of the ſettlers is, that the ſettlements ſhall proceed regularly down the Ohio; and northward to Lake Erie.

And it is thought probable that not many years will elapſe, before the whole country above Miami will be brought to that degree of cultivation, which will exhibit all it's latent beauties, and juſtify thoſe deſcriptions of travellers which have ſo often made it the garden of the world.

No country is better ſtocked with wild animals: innumerable herds of deer, elk, buffalo, and bear, are ſheltered in the groves, and fed in the extenſive bottoms that every where abound; an unqueſtionable proof of the great fertility of the ſoil: turkies, geeſe, ducks, ſwans, teal, pheaſants, partridges, &c. are in greater plenty here, than the tame poultry are in any part of the old ſettlements in America.

448. *Vermont.*] The ſtate of Vermont is 155 miles in length, and 60 in breadth. It is bounded on the north by Canada; on the eaſt by Connecticut river, which divides it from New-Hampſhire; on the ſouth by Maſſachuſetts; and on the weſt, by New-York.

This ſtate, on the eaſt ſide of the mountain, is watered by the Paupanhooſak, Quechey, Welds, White, Black and Weſt rivers, which run from weſt to eaſt into Connecticut river; and weſt of the mountains, by the river Lamoil, over which is a natural ſtone bridge, ſeven or eight rods in length, by Onion river and Otter creek, which empty by one mouth into Lake Champlain, 20 or 30 miles ſouth of St. John's. Otter Creek is navigable for boats 50 miles. The lands adjacent are of an excellent quality, and are annually enriched by the overflowing of the water, occaſioned by the melting of the ſnow on the Green Mountains.

A chain of high mountains, running north and ſouth, divides this ſtate nearly in the centre between Connecticut river and Lake Champlain. The height of land is generally from 20 to 30 miles from the river, and about the ſame diſtance from the New-York line. The natural growth upon this mountain is hemlock, pine, ſpruce, and other evergreens; hence it has always a green appearance, and on this account has obtained the deſcriptive name of *Verd Mont, Green Mountain.* On ſome high parts of this mountain, ſnow lies till Fifth-month, and ſometimes till Sixth-month.

The country is generally hilly, but not rocky. It is finely watered, and affords the beſt of paſturage for cattle. On the banks of the lakes, rivers and rivulets, are many fine tracts of rich interval land. The heavy growth of timber, which is common throughout the ſtate, evince the ſtrength and fertility of the ſoil. Elm, black birch, maple, aſh and baſs-wood, grow in the moiſt low ground; and the banks of the rivers are timbered principally with white pine, intermingled with vales of beech, elm and white oak. The inhabitants cultivate wheat, 25 and 30 buſhels of which grow on an acre; rye, barley, oats, Indian corn, &c. The corn, however, is frequently cut off by the early froſts, eſpecially on the mountains and hills. That which grows on the banks of the rivers is not ſo frequently injured. Flax is raiſed in conſiderable quantities, and the ſoil is good for hemp. Potatoes, pumpkins, and garden roots and vegetables, grow here in great plenty; and large quantities of ſugar, of a good quality and flavour, are made from the ſugar maple.

The

The climate is very healthy. During the winter, the inhabitants generally enjoy a ſerene ſky, and a keen cold air. The ground is ſeldom frozen to any great depth, being covered with a great body of ſnow, before the ſevere froſts begin. In the ſpring, the ſnow is gradually diſſolved by the warm influences of the ſun; and, in this way, the earth is enriched and moiſtened, and ſpring advances with ſurpriſing quickneſs.

449. *Miſcellaneous Obſervations, &c. on Perſecutions, Witchcraft, &c.*] Pennſylvania having been principally ſettled by the Profeſſing Friends, or Quakers, geographers and hiſtorians, in deſcribing the country, have in general given an account of that people. To enter into a deſcription of the different profeſſions of chriſtianity is foreign to the deſign of this work; yet I crave, of the reader, the indulgence of making a few remarks on the author of the American Geography, to whom I am principally indebted for my information reſpecting the United States. Upon the whole, he ſeems to rejoice at the deſtruction of tyranny, and in the growth of liberal principles. It ſeems, however, not difficult to diſcover in the work, that the author is an American, that he is a native of New England, and of the ſtate of Maſſachuſetts; for, far from ſhewing himſelf a citizen of the world, he betrays, in his writings, the partialities or narrow ſentiments of the patriot. If any thing be advanced reſpecting his country, that appears to him diſreſpectful, he directly enters upon it's defence, by comparing it with other places.

In this way, he ſhews that the abſurd notions of witchcraft were not confined to New England; that they prevailed alſo in other parts of America, and in Europe; and that the victims of theſe prejudices were alſo put to death in the mother country as well as in America. He alſo ſhews that, while the ſpirit of perſecution ran ſo high in New England, that the Quakers were actually put to death; in Old England, their ſufferings were ſo great, that, though none of them were publicly executed, many of them, confined in priſons, died in conſequence of the rigour of the law.

In the former edition of this work the perſecutions in New England were paſſed over, and I ſhould have been happy, on this occaſion, to have omitted them. The time, it is to be hoped, is approaching, when religious prejudices will utterly ceaſe, and the records of them be obliterated. Perhaps mankind will deſtroy, at length, the pile of hiſtory in general, and at laſt, wiſely confine themſelves to that portion of paſſing time, in which they have to act their part; perhaps they will, at length, learn to preſer the ſocial duties towards their contemporaries, to all the entertaining and time-ſtealing works of hiſtory and biography. I ſhould have been happy to have paſſed over the barbarous age of New England, and to have contemplated it only in it's preſent improving ſtate; but the author, in endeavouring to extenuate the exceſſes of his predeceſſors, ſeems to me to have let his zeal tranſport him beyond the bounds of his uſual candour. He ſays, "the conduct of the Quakers, at ſeveral times, was ſuch as rendered them proper ſubjects of a mad-houſe, or houſe of correction; and it is to be lamented, that ever greater ſeverities were uſed." In this, the author

has moſt unhappily expreſſed himſelf. If they were proper ſubjects of the former, the idea of applying the pains of the latter is abſurd as well as cruel. He then ſays, he will mention one or two inſtances of their conduct, which clearly manifeſt a ſpecies of madneſs. If the inſtances he mentions be related with preciſion, their conduct and appearances ſeem to have been ſomewhat ſimilar to thoſe of the ancient prophets, mentioned in Iſaiah xx. in Jeremiah xix. 10. and in many other places; yet this miniſter of the goſpel, ſuch is his title, does not preſume to account thoſe inſane; in ſo doing he might forfeit his claim to being orthodox. He tells us, that the firſt who openly profeſſed theſe principles were women; that, afterwards, others arrived, that they were impriſoned, and their books ſeized and reſerved for the fire. "Soon after this, as the governor was going from public worſhip, on the Lord's day, to his own houſe, ſeveral gentlemen accompanying him, Mary Prince called to him from a window of the priſon, railing at, and reviling him, ſaying, "Woe unto thee, thou art an oppreſſor;" and denouncing the judgments of God upon him. Not content with this, ſhe wrote a letter to the governor and magiſtrates, filled with opprobrious ſtuff. The governor ſent for her twice from the priſon to his houſe, and took much pains to perſuade her to deſiſt from ſuch extravagances. Two of the miniſters were preſent, and, with much moderation and tenderneſs, endeavoured to convince her of her errors, to which ſhe returned the groſſeſt railings, reproaching them as hirelings, deceivers of the people, Baal's prieſts, the ſeed of the ſerpent, of the brood of Iſhmael, and the like."

If ſhe applied theſe names reſentfully, ſhe was wrong; but the man whoſe profeſſed buſineſs was, in a great meaſure, the ſtudy of the Bible, ought to have remembered, that there are expreſſions there, recorded to have been made uſe of, which on the common occaſions of life we ſhould be aſhamed to adopt, but which we may ſuppoſe, he would not dare to ſay were improper in their application. Iſaiah lvi. 10. 11. Matt. xiii. 17. 33. Luke xi. 40. xii. 32. John iv. 10. viii. 44. Acts xiii. 3.

It is contrary to the feelings of our nature, it is contrary to common ſenſe, to conſider thoſe as our friends, who hold us in durance, while we conceive ourſelves innocent. To have proved themſelves perſuaſive, moderate, and tender, they ought to have firſt liberated her: till then their proceedings were a ſyſtem of coercion.

Beſides, while the puniſhment of death may to many ſeem the greateſt of all evils, the indignities which ſome of the women endured in priſon, were ſuch as, to the female character, would be felt as more diſtreſsful than death, even with torture. That I may not be underſtood to charge theſe infatuated zealots with attempting their virtue by ſeduction or violence, it may be right to add, that they ſtripped theſe innocent women, to examine their naked bodies, under the idea, that they were bewitched, and that they muſt have the ſecret mark of their familiar, imp, or demon, upon them.

The author ſays, "the perſecution of any religious ſect ever had, and ever will have, a tendency to increaſe their number. Mankind are compaſſionate beings; and from a principle of pity, they will often advocate

advocate a cauſe which their judgement diſowns. Thus it was in the caſe of the Quakers; the ſpectators compaſſionated their ſufferings, and then adopted their ſentiments." We cannot ſuppoſe that in ſuch trying times the people could adopt what their judgement diſowned; they muſt have believed that they were right. "Their growing numbers induced the legiſlature, in their October ſeſſion, to paſs a law to puniſh with death all Quakers who ſhould return into the juriſdiction after baniſhment. Under this impolitic, as well as unjuſt law, four perſons only ſuffered death, and theſe had, in the face of prudence as well as of law, returned after having been baniſhed." If the author had remembered the expreſſion of Paul, "Woe is me if I preach not," he perhaps would not have charged them with imprudence, for they declared themſelves under ſimilar obligations.

There is one piece of information he brings forward, which charges Charles II. with approving of the ſeverity of the people of Maſſachuſetts, and which is not generally known. By this it ſhould ſeem that, notwithſtanding his proclamation of univerſal toleration iſſued at Breda, the licentious monarch was a principal promoter of thoſe ſanguinary meaſures towards the Profeſſing Friends, which he had afterwards to correct.

Extract from the King's Letter, dated the 28th of June, 1662.

"We cannot be underſtood hereby to direct, or wiſh that any indulgence ſhould be granted to thoſe perſons commonly called Quakers, whoſe principles being inconſiſtent with any kind of government, we have found it neceſſary, by the advice of our parliament here, to make a ſharp law againſt them, and are well contented that you do the like there."

While it is afflictive to read in the hiſtory of New England, the dreadful effects of ſuperſtition; while aſtoniſhment, or even indignation may be ready to riſe, in the review of a people, who having fled from perſecution in Europe, became more intolerant themſelves, when they roſe into power, hereby giving to the enemies of the rights of man a handle, or argument, againſt the moſt ſalutary reforms; it may yet be obſerved in the conduct of the New Englanders, that there was a ſincerity in their meaſures, which we do not ſo uniformly diſcover in the ſimilar abominations of Europe. Here, court policy has been ſo mingled with the zeal of the perſecutors, that it is ſometimes hard to diſcover whether has been the more prevailing. It was, perhaps, the policy of the rulers to work upon the prejudices of the multitude, while they impoſed ſuffering and death upon the martyrs; but they forgot not to indulge themſelves in the delicacies, gratifications, and luxuries of the age, and many of them were licentious in their lives and converſation. On the other hand, the laws, and the manners of New England were ſevere. The wearing of long hair was accounted an abomination, and ſubjected to correction; the fine for ſwearing was 11½d.; for breaking their ſabbath, 2l. 19s. 9½d.; all thoſe who were detected either in lying, drunkenneſs, or dancing, were ordered to be publicly whipped; children for ſtriking or curſing their parents, were to be puniſhed with death; and, the worſhip of images, witchcraft, perjury, blaſphemy, and

adultery, were made capital offences. In their rage againſt hereſy, whole colonies were driven out from Maſſachuſetts, and to theſe ſome of the other ſettlements owed their origin.

The ſuperſtitious notions of witchcraft, which have been equally entertained by the Jews and the Gentiles, appear to have been carried to their greateſt extent in the 17th century of the Chriſtian era. To be aged, infirm, poor, and friendleſs, in thoſe unhappy days, was enough to induce the charge of witchcraft. Many ſuch were put to death with form of law, and others have been worried, or harraſſed, out of their lives, by ſuperſtitious and frantic mobs. Even yet, the the ſtrange and horrid idea of human beings deriving ſuperior powers and information from diabolical intercourſe or influence, is not quite done away in Europe. But there was, perhaps, never a country rendered ſo frightfully wretched by theſe dark and gloomy notions as New England. The priſons were filled, the gibbets left ſtanding, and continually laden with new victims, whoſe bodies were left expoſed to wild beaſts and birds of prey. "The innocence of youth, the infirmities of age, virgin modeſty, fortune, honour, virtue, and the moſt dignified employments of the ſtate were no ſecurity againſt the ſuſpicions of a people, infatuated with viſionary ſuperſtition. In default of witneſſes, torments were employed to extort confeſſions dictated by the executioners themſelves. If the magiſtrates, tired out with executions, refuſed to puniſh, they were themſelves accuſed of the (imaginary) crimes they tolerated; the very miniſters of religion raiſed witneſſes againſt them, who made them forfeit with their lives the tardy remorſe excited in them by humanity. The moſt prudent quitted a country ſtained with the blood of it's inhabitants; and thoſe that remained, wiſhed only for peace in the grave. In a word, nothing leſs than the total and immediate ſubverſion of the colony was expected, when, on a ſudden, in the height of the ſtorm, the waves ſubſided, and a calm enſued. All eyes were opened at once, and the exceſs of the evil awakened the minds which it had at firſt ſupined."

In theſe moſt extravagant abſurdities, there ſtill appears to have been a degree of ſincerity. We do not find that the poor and friendleſs were marked out as victims: their abſurd but dreadful laws were indiſcriminately carried into execution, contrary to thoſe of the Europeans, without reſpect of perſons; and their minds being thus uncontaminated with the guile and ſervility of the mother-country, we need not wonder that they the more readily ſaw into, mourned over, and relinquiſhed their errors; whilſt the legiſlature of Great Britain continued the laws againſt witchcraft, till a conſiderable time within the preſent century; and then, without taking the trouble of informing, generally, the minds of the people, publicly executed them for deſtroying witches, as the infatuated mob accounted them. At Tring, in Hertfordſhire, not 20 miles from London, in 1751, theſe melancholy events took place. Two aged perſons were drowned in a horſe-pond under the ſuſpicion of being witches, and the perpetrators of the dreadful deed hanged. And yet, at Huntingdon, the commemoration of the execution of a whole family, in that town, on the charge of witchcraft, is kept up till this day, and indeed the juſtice of the ſentence in ſome ſort

defended

defended or aſſerted, by an annual miſſionary from Cambridge, who comes to preach a ſermon againſt witchcraft, and to receive a ſtipend left for that purpoſe, in conſequence of that unhappy (though thought by the donor praiſeworthy) event. The laſt inſtance of theſe frantic executions, in Scotland, took place at Embo, a village near Brora, on the eaſt coaſt of Sutherlandſhire, where, in 1727, a poor unhappy perſon was burnt for the imaginary crime of witchcraft. It does not appear, that theſe horrid violations of humanity ever took place in Ireland: the more innocent ſuperſtitions of that country attribute uncommon appearances, or events, to thoſe imaginary little folks, the Fairies. But, to return to the ſubject of religious perſecution, it is worthy of remark, alſo, that in the province of Maſſachuſetts, in which the moſt ſanguinary laws had been made and put into execution againſt the Profeſſing Friends, the firſt law was made, exempting them from contributing to the ſupport of the public miniſtery; an act of aſſembly having paſſed for that purpoſe in 1731: while the means of perſecuting them are not yet wholly removed in Great Britain and Ireland, they being ſtill liable to ſuffer in the Exchequer, and in the eccleſiaſtical court. At this very inſtant there are eight of them confined in York caſtle, and their wives and children, in Lotherdale, deprived of their wonted ſupport. Seven of theſe are in membership with the ſociety of Profeſſing Friends, and conſequently fall under their care, as to the proviſion or their neceſſities.

Juſt at the time of committing this to preſs, the article Quaker in the Encyclopædia Britannica has made it's appearance, and I cannot but remark, that the editors of the preſent impreſſion (the Dublin edition excepted) have in ſome meaſure departed from their former liberal plan, which was that of giving accounts of religious ſocieties in their own words; for, on this occaſion, while they had the candour to inſert the greater part of the "*Summary of the Hiſtory, Doctrine, and Diſcipline of the Friends*," as lately drawn up by the ſociety of profeſſing friends; they have yet introduced or brought forward ſome charges againſt the early profeſſors, which, perhaps, they did not know were fully refuted above 100 years ago. The authority they give for their ſtatements, is called "*The Theological Works of Mr. Leſly*," the zealous aſſertor of the divine right of tythes, a man, who, in attempting to prove too much, has defeated his own intention. Among other extravagances, he attempts to ſhew, that the Quakers aſpire to an equality with God, that they worſhip one another, that they damn all the world but themſelves, that they are *viſibly* poſſeſſed by the devil, and that they are *witches*.

It ſeems a pity, that the Encyclopædiſts made uſe of ſuch authority. Had they had the writings of the profeſſing Friends before them, which he pretends to quote, referring even to the page, (as I have at preſent) they would have found, that their author not only gave his quotations in a mutilated way, but that there was a want of preciſion in even what he did bring forward. Finally, had they had the whole of his writings before them, they might have met with ſuch language and ſentiments as might have induced them utterly to reject him as authority.

Among other things, he ſays "the Quakers are the faces, the dregs

and lees of all the monſtrous ſects and hereſies of forty-one, (1641) thickened and ſoured into a tenfold more poiſonous conſiſtency; they are all centered in Quakeriſm, as the beams of the ſun contracted in a burning-glaſs, meet in a point, and there throw in their united force."

Again, ſpeaking of the "good old days," as we have ſometimes heard them called, "of Queen Beſs," he ſays, "there was an age when ſome zeal was ſhewn againſt them," the heretics. "The 24th November, anno 1538, four Dutch Anabaptiſts bare faggots at Paul's croſs; and the 27th November, two Dutch Anabaptiſts were burnt in Smithfield. Anno 1539, two Dutch Anabaptiſts were burnt betwixt Southwark and Newington; and anno 1575, a congregation of Dutch Anabaptiſts were diſcovered upon Eaſter-day, at a houſe without Aldgate, of whom 27 were taken, and ſome made to recant. The ſame year, (which was the 17th of Q. Elizabeth) one man and two women, Dutch Anabaptiſts, were condemned to be burnt; but the women were converted, and the man was baniſhed. The 22d of July, the ſame year, two Dutchmen, Anabaptiſts, were burnt in Smithfield: and in the year 1561, the queen iſſued a proclamation, commanding the Anabaptiſts and other heretics, who had flocked hither from beyond ſeas, to depart the realm in 23 days, upon pain of impriſonment and forfeiture of goods and chattels, whether they were natural born ſubjects or foreigners."

SECTION LVII.

Territories of Spain in North America.

The Spaniſh dominions, in North America, extend from eighty-one to one hundred and twenty deg. weſt longitude, and lie between eight and forty-three deg. north latitude. They are bounded on the north by the American States, and numerous Indian nations; on the weſt their ſhores are waſhed by the Pacific; on the eaſt by the Gulf of Mexico and the Atlantic; and on the ſouth they terminate in the Iſthmus of Darien, which joins them to South America.

450. *Diviſions.*] They comprehend the following countries or diviſions.

Countries.	*Chief Towns.*
EAST FLORIDA.	St. Auguſtine.
WEST FLORIDA.	Penſacola.
LOUSIANA.	New Orleans.
NEW MEXICO.	St. Fee, St. Antonio, Tuape.
CALIFORNIA.	St. Juan.
OLD MEXICO.	Mexico, Acapulco, Vera Cruz, Tlaſcala, Mochoacan, Tampice, Guaxaca, Tobaſco, Campeachy, Chiapa, Soconuſco, Vrapaz, Guatimala, Valladolid, Leon, Nycoya, Sta. Fee, Guadalajarra, Zacatecas, St. Barbara, Cinolea, Charmetlan, Xalitſco.

451.

451. *Climate, Soil, Plants, and Animals.*] So extenſive a tract of country naturally includes within itſelf a variety of climates and ſoils. It is generally warm and pleaſant, but the northern parts are ſometimes viſited by chilling winds from the north-weſt, while the ſouthern parts, lying principally within the torrid zone, are exceſſively hot, and on the eaſtern ſhore, where the land is low, marſhy, and conſtantly flooded in the rainy ſeaſons, the air is extremely inimical to health. During the winter, ſtrong winds prevail in the Gulf of Mexico, and the adjacent ſeas. Trade winds, monſoons, ſea and land breezes are experienced here. The ſoil is generally very fertile, but it is in the moſt mountainous and ſterile parts that the mines of ſilver and gold are diſcovered. This country produces rice and the different kinds of corn; a great variety of eſculent roots and herbs; indigo, tobacco, cacao, cotton ſilk, which is the work of inſects, and is in itſelf an aſſemblage of minute creatures; cochineal, logwood, mahogany, and the different kinds of timber; a great variety of dyes, gums, and medicines; and the different kinds of tropical fruits, as grapes, figs, pine-apples, pomegranates, limes, oranges, lemons, citrons, &c. together with immenſe quantities of ſugar. The animals firſt brought here from Europe, have multiplied in aſtoniſhing numbers, and many of them run wild in the woods, as cows, horſes, aſſes, ſheep, goats; here are alſo buffaloes, mooſe-deer, a ſort of lions and tigers, wolves, ounces, pecarees, monkies, opoſſums, racoons, wild cats, beavers, the armadillo, and ſloth, the flying ſquirrel, a variety of lizards and ſerpents, &c. The birds are peacocks, the macaw, the quam, the curaſoe, the cardinal, and the humming bird, linnets, larks, nightingales, &c. buſtards, geeſe, cranes, vultures, gulls, cormorants, mews, quails, with many other ſpecies. The multitude and variety of fiſh that abound in the rivers, creeks, bays, and ſeas in this part of the world are innumerable; among theſe are the manatas, and five or ſix different ſpecies of turtle, the gar fiſh, and paracood, ſalmon, turbot, barbel, ſkate, mackarel, pilchards, ſoals, bonettas, and many other ſpecies, pearl and other oyſters, cray-fiſh, lobſters, and other ſhell-fiſh.

452. *Minerals, Inhabitants, Trade.*] Mines of pit coal, iron ore, copper, and quickſilver have been diſcovered in the Spaniſh part of North America, and a kind of ſtone pitch, called copel, which the Spaniards uſe as tar for their ſhipping; it alſo yields turquoiſes, emeralds, amethyſts, lapis lazuli, and other precious ſtones, jaſper, porphyry, and very fine marble; amber and pearls are found on the coaſts. There are mines of gold and ſilver in New Mexico, but the value of their produce cannot be aſcertained. The mines of theſe highly valued metals, eſpecially thoſe of ſilver, in Old Mexico, are prodigious. It's moſt diſtinguiſhed inhabitants are the Spaniards, ſent hither by the court to fill the poſts of government: They are obliged, like thoſe in the mother-country, who aſpire to any eccleſiaſtical, civil, or military employments, to prove that there have been neither heretics, Jews, Mahometans, nor any perſons in their family, who have been called before the inquiſition, for four generations. The predilection which adminiſtration has for Spaniards born in Europe, has reduced the Spaniſh Creoles to acquieſce in ſubordinate ſtations. The Meſtees, who conſtitute the third order of citizens, are held in ſtill greater contempt,

contempt. It is well known, that the court of Madrid, in order to repleniſh a part of that dreadful vacancy which the avarice and cruelty of the conquerors had occaſioned, and to regain the confidence of thoſe who had eſcaped their fury, encouraged as much as poſſible the marriage of Spaniards with Indian women. And the Creoles transfer to this mixed progeny, the contemptuous ſlight they receive from the Europeans. The blacks are not numerous in New Spain; but are much careſſed by their maſters, who make an oſtentatious diſplay of them. Theſe ſlaves aſſume over the Mexicans, who are called free, an aſcendant, which keeps up an implacable hatred between the two nations; and this is encouraged by the law, which inflicts the moſt dreadful and degrading puniſhment on the negroes who mingle with the natives. It is not in the vicinity of the mines, towns, and great roads that the Indians enjoy eaſe; but in the remoter parts, where the Spaniards are not numerous, and where they have, in ſome meaſure, become Mexicans.

Mexico may be conſidered as the centre or heart of all the commercial affairs of Spain. The trade of Mexico conſiſts of three capital branches. It carries on a traffic with Europe by La Vera Cruz, ſituated on the Gulf of Mexico; with the Eaſt Indies, by Acapulco on the South Sea, and with South America by the ſame port. Though this immenſely rich trade paſſes entirely through the hands of the Spaniards, and in the very centre of their dominions, their profits are comparatively ſmall; for as they allow the Dutch, the Engliſh, and other commercial ſtates to furniſh the greateſt part of the cargoes of the Flota from Spain, ſo the Spaniſh inhabitants of the Philippines, poſſeſſed with the ſame ſpirit of indolence, which ruined their European anceſtors, permit the Chineſe merchants to ſupply the principal part of the Manilla Galleon, and thus the vaſt produce of their mines is diſtributed over the world, and the Dons are relieved from that prodigious load or burthen of wealth under which, in a political capacity, they may be rather ſaid to have laboured than grown rich.

453. *Hiſtory.*] The Spaniſh part of America was early in the ſixteenth century moſtly ſubdued by private adventurers, commiſſioned by their court, but their conqueſts were attended with the moſt aggravated circumſtances of cruelty. Millions of the poor Americans fell under the deſtructive ſwords of the Spaniards, their country was laid waſte, they were robbed of their treaſures, and their emperors or incas barbarouſly put to death.

Part of Spaniſh America, however, has been reduced in a very different kind of way; not by the force of arms, but by the labours and zeal of Romiſh miſſionaries. The Jeſuits have in America prevailed upon many thouſands of families of the Indians to abandon their ſavage manner of life; they have inſtructed them in arts and ſciences, taught them the principles of their religion, and entirely reduced them to the European civilization, particularly in Paraguay, in South America. But the power and influence of thoſe pious eccleſiaſtics have been deſtroyed by the policy of the courts of Spain and Portugal.

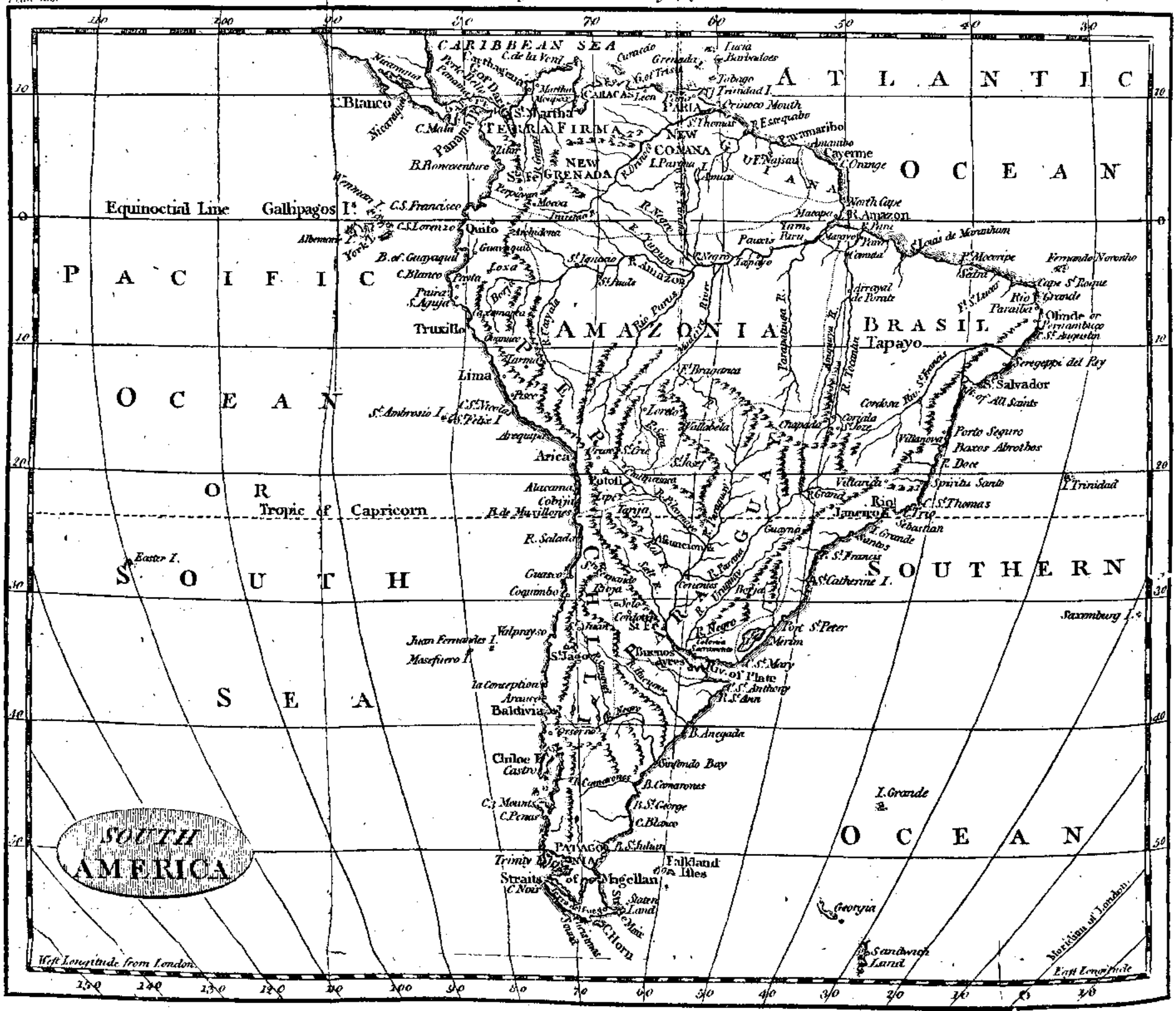
Engraved for Walkers Geography

Plate XXX

Engraved for Walker's Geography &c.

Plate XXX

Engraved for Walker's Geography &c.



PART X.

DESCRIPTION

OF

SOUTH AMERICA.

THE Spaniards, beſides their extenſive territories in North America, have immenſely rich, and very extenſive poſſeſſions in the ſouth. Indeed, if we except the large province of Brazil, which is in the hands of the Portugueſe, and the ſmaller ſettlements of the Dutch, in Surinam; and of the French, in Cayenne, all lying on the eaſtern coaſt between the rivers Oronoque and La Plata, they claim the whole of South America, from the northern coaſt of Terra Firma and the Iſthmus of Darien, through many large and fruitful provinces, to the ſtreights of Magellan, on it's bleak ſouthern extremity.

As the principal part of South America lies within the Torrid Zone, it's climate and natural productions are generally ſuch as are common to tropical climates. Thick ſwarm the birds of moſt beautiful plumage, the beaſts of the foreſt multiply in aſtoniſhing abundance, and every ſwamp and every fen teems with life in various forms; the moſt venemous creatures, the moſt deadly poiſons, and the moſt ſovereign antidotes, fineſt gums, balſams, and fruits abound here. It's gold and ſilver mines, and it's precious ſtones are ſufficiently celebrated. South America alſo, like other tropical countries, experiences periodical winds and tempeſts. Rains and floods, which drive the inhabitants to the hills, lay the lowlands under water, and fertilize the ſoil. The mountains and rivers in this quarter are the largeſt in the world. The mountains which form the Andes extend above five thouſand miles in length, nor is their height leſs remarkable than their extent; they are computed to be three miles perpendicular; their ſummits are always covered with ſnow, even in the midſt of the Torrid Zone; many of them are volcanoes, and the greater part of them mines of the moſt precious metals. The rivers which have their ſource in theſe lofty ridges, as the Oronoco, the Amazons, and the Plata, appear like ſeas, incloſing in themſelves numerous and extenſive iſles, or pouring their mighty waters into thoſe of the ocean, with ſuch rapidity and force, as to freſhen it for many leagues diſtance from the land.

SECTION LVIII.

Portugueſe America, or Brazil.

454. *Situation, Produce, &c.*] This country receives it's name of Brazil from it's abounding with that kind of wood. It lies between the equator and thirty-five deg. ſouth latitude, and between thirty-five and ſixty deg. weſt longitude. It is bounded on the north by the mouth of the river Amazons and the Atlantic Ocean, by the ſame Ocean on the eaſt, by the mouth of the river Plata on the ſouth, and by a chain of mountains, which divide it from Paraguay, and the unknown country of the Amazons on the weſt. So free a people were the Aborigines of this country, that, till the Europeans came among them, they could not conceive that any perſon could have the audacity to command; much leſs that any one could be ſo weak as to obey.

The moſt capital cities or towns of Brazil are St. Salvadore, Rio de Janiero, and Fernambuco. To theſe three places, flotas are annually ſent from Portugal, fraught with the various commodities and manufactures of Europe; for there, as well as in Spain, they let other commercial nations furniſh the principal part of the cargoes of the flota, though all paſſes in the name, or through the hands of their own merchants, who, as well as the Spaniards, have invariably ſhewn the ſtricteſt fidelity, and never once betrayed the truſt the foreign merchants repoſed in them, whatever wars there might be between their reſpective nations, nor let their goods be diſſeized, which they would have been liable to, if acknowledged to be foreign property. The other towns are Para or Belim, St. Lewis, Siara, St. Luc, Pignares, Payraba, Tamara, Olinda, Serigippe, Paya, Porto Seguro, Spirito Sancto, St. Sebaſtian, St. Vincent. The returns from Brazil are it's natural productions, as gold, diamonds, and other precious ſtones, ſugar, tobacco, hides, indigo, Brazil wood, and other valuable drugs both for medicine and manufactures, vaſt quantities of gold, alſo ebony, ivory, &c. firſt brought here from their ſettlements in Africa, and thus are their immenſe treaſures diſtributed over Europe.

455. *Hiſtory.*] A Portugueſe fleet, bound for India in 1500, ſtood out ſo far to ſea, to avoid the calms on the African coaſt, that they fell in with Brazil. On their report, the court of Portugal undertook to colonize this country; they tranſported convicts here; theſe treated the original inhabitants with cruelty, who took every opportunity to retaliate on their invaders. This country, together with Portugal, fell under the dominion of Spain, and when the Dutch revolted from that crown, they made conqueſts in this country. Theſe were afterwards driven out by the Portugueſe, and that they might ceaſe from annoying them, and give up their claims to Brazil, the Portugueſe, in 1661, agreed to pay the Dutch eight tons of gold.

SECT.

SECTION. LIX.

French and Dutch America, or Guiana.

The poſſeſſions of the French on the American continent are now very inconſiderable. Having loſt Canada and Louiſiania, they have no longer any footing in North America; they ſtill retain a ſettlement on the ſouthern continent of America, to which they have given the name of Cayenne or Equinoctial France.

456. *Cayenne.*] This country is ſituated between the equator, and five deg. north latitude, and between fifty-five deg. weſt longitude. It extends two hundred and forty miles along the coaſt of Guiana, and near three hundred miles within land, being bounded by Surinam on the north, by the Atlantic on the eaſt, by Amazonia on the ſouth, and by the territories of the native Indians on the weſt.

The country is not yet in very high cultivation; it produces, however, ſugar, coffee, and a variety of uſeful trees, plants, gums &c.

457. *Hiſtory.*] The French firſt eſtabliſhed themſelves here in 1653. After this, they abandoned the place; the Engliſh took poſſeſſion of it, but the French ſoon returned, and drove them out; theſe were in their turn expelled by the Dutch; the French the ſame year obliged them to evacuate it, and have ſince kept it in their poſſeſſion, though the Dutch have made ſome attempts to retake it.

458. *Surinam.*] Surinam, or Dutch America, lies between five and ſeven deg. north latitude, is bounded by the Atlantic Ocean, and the River Oronoco in the eaſt, and north by Cayenne, and the territories of the natives on the ſouth, and by Terra Firma on the weſt. It's productions are tobacco, cotton, ſugar, coffee, ſkins, flax, and ſome valuable drugs for dying and medicine. It is one of the richeſt and moſt valuable colonies belonging to the United Provinces; but it is in a leſs proſperous ſituation than it was ſome years ſince, owing, among other cauſes, to the wars they have been engaged in with their fugitive Negroes, whom they have treated with great barbarity, and who are become ſo numerous, having increaſed from year to year, that they have formed a kind of colony in the woods, which are almoſt inacceſſible, along the rivers of Surinam, Saramanca, and Copename, and are become very formidable enemies to their former maſters. Under the command of chiefs, whom they have elected among themſelves, they have cultivated lands for their ſubſiſtence, and making frequent incurſions into the neighbouring plantations, revenge themſelves upon their old oppreſſors.

459. *Hiſtory.*] Under Charles II. the Lord Willoughby, governor of Barbadoes, firſt formed a ſettlement in this country. When the Engliſh had diſpoſſeſſed the Dutch of New-York, the latter ſent a fleet againſt the colony of Surinam, and ſubdued it; and at the peace of Breda, it was agreed that each ſhould keep the territories they had won from the other.

The other parts of Guiana are indeterminate, and unknown to Europeans.

SECTION LX.

Spaniſh South America.

460. *Diviſions, &c.*] The dominions of Spain in South America are as follows:

Countries	*Chief Towns.*
TERRA FIRMA	Panama, Porto Bello, Carthagena, St. Martha, Rio de la Hacha, Venazuela, Comana, St. Thomas, St. Fee de Bagota, Popayan.
PERU.	Lima, Cuſco, Quito, Payta, Potoſi, Porco.
CHILI	St. Jago, Conception, Baldivia, Imperial, St. John de Frontiera.
PARAGUAY.	Buenos Ayres, St. Jago, Aſſumption, St. Anne. Cividad Real, Los Reyes.

Spain alſo lays claim to Amazonia and Patagonia.

The climate and ſoil of Spaniſh America, vary from the ſmoking ſwamp and parched ſand, to the pleaſant and healthy upland, and bleak and barren mountain top; in general, however, from the perpetual ſnows on the mountains, the air is rendered more cool and temperate here than in the ſame latitudes in Africa.

461. *Productions.*] Among the profuſion of vegetables produced in this part of the world, are the ſeveral European grains, Indian corn, rice, ſugar-canes, pine-apples, olives, grapes, tamarinds, oranges, lemons, dates, figs, bananas, cocoas, almonds, guavas, coffee, pepper, &c. potatoes, caſſava, and ſeveral other roots; various kinds of gums and drugs, as ſarſaparilla, dragons blood, balſams, rhubarb, ſtorax, guaiacum, ipecacuanha, quinquina or jeſuit's bark, the herb paraguay, &c. tobacco, indigo, hemp, cotton, &c. Unnumbered are the varieties of trees in the foreſts; ſome of theſe are of a friendly nature, and ſupply them with honey, vinegar and drink; others are moſt deadly; ſuch in particular is the malignity of the mazanillo tree, that if a perſon only ſleep under it, his body ſwells and is racked with the ſevereſt tortures.

The European fruit trees are obliged to be propped here, to enable them to ſuſtain the weight of the fruit, and the ſtrawberries are as big as pears.

The numbers of animals in Spaniſh South America are prodigious; the horſes, cows, &c. originally imported from Europe have increaſed in aſtoniſhing abundandance, they run wild in herds, and are hunted for the ſake of their hides and tallow: the other quadrupeds are the tapir, the lama, the vicuana, the guanaco, a ſort of lions, tigers and panthers, deer, foxes, &c. baboons of a large ſize, and prodigious numbers of monkeys of various colours, whoſe fleſh is highly valued, ſloths, armadillos, ant-bears, &c.

Among

Among the innumerable flights of birds are the condor, the zumbador; turkeys, geese, and all kinds of poultry, wood pigeons, turtle doves, partridges, snipes, woodcocks, royal cirapicos, guacamayos, gallinazos, the toucan or preacher, the difpertadore or awakener, &c.

The rivers, lakes, and seas abound in excellent fish: in the last are whales and sea-wolves, with a variety of other kinds; and in the river alligators and crocodiles. The number and variety of snakes in this country is great; besides the rattle snake, here are found some twenty-two feet long, and thick in proportion; and if credit may be given to the Spaniards, swallow a whole stag at a time: there are some that climb up trees, and thence dart upon their prey, which they crush to pieces by twining themselves round it, and others that live entirely in rivers and prey upon fish: there are likewise many of them, which, though terrifying to the sight, are perfectly harmless.

Emeralds, sapphires, and other precious stones, and quarries of lapis lazuli, and of loadstone, are found in Spanish America: mines of gold, silver, copper, tin, quicksilver, iron and lead abound in the mountains.

These various rich productions form the exports of these countries, and their imports are the commodities of Europe and the Indies. The commerce is chiefly carried on here, as in Mexico, by regularly stated fleets.

The galleons form a fleet consisting of eight men of war, of five hundred tons each, designed principally to supply Peru with military stores; but in reality laden not only with those, but with every kind of merchandize on private accounts. Under the convoy of these are twelve sail of merchantmen, not inferior to the galleons in burthen; this fleet is regulated in much the same manner as the flota, and is destined for the exclusive commerce of Terra Firma and the South Sea, as the flota is for that of Mexico. As soon as it arrives at Carthagena, expresses are dispatched to Porto Bello, and to all the adjacent towns, but particularly to Panama, that they may get ready all the treasure which is deposited there (and which has first been brought by the South Sea from Lima, which city may be accounted the centre of all the wealth of Chili and Peru) to meet the galleons at Porto Bello; here all that are engaged in the various branches of this extensive trade assemble. There is no other part of the world where business of such great importance is transacted in so short a time; for sometimes in a fortnight the fair is over: During the continuance of it, heaps of wedges and ingots of silver are thrown on the wharf without any appearance of care; and the display of gold, silver, and precious stones on one hand, and of the curious workmanship of the different ingenious fabrics of Europe on the other, is amazing.

The port of Buenos Ayres is the only place of traffic to the southward of Brazil, on the eastern coast of Spanish America; and two or three register ships make the whole of their regular intercourse with Europe.

SECTION

SECTION LXI.

Amazonia, and Patagonia.

462. *Amazonia.*] The vaſt country called Amazonia, though ſituated between European colonies of Peru and Brazil, and every where penetrable by means of the great river of the Amazons, has never yet been perfectly explored: ſome attempts indeed have been made by the Spaniards and Portugueſe, but they were always attended with ſo many difficulties, that few of the adventurers ever returned; and no gold or other very valuable produce having hitherto been diſcovered in the country, Europeans are but little diſpoſed to make any new ſettlement there.

463. *Patagonia.*] Patagonia has always been repreſented by geographers as a barren inhoſpitable country, and in a great meaſure deſtitute of wood, or any other incentive to colonization. The Spaniards however attempted it in 1581, built a town which they named Philippeville, and placed about four hundred perſons in it; but the celebrated Engliſh navigator Cavendiſh, in 1587, found only one of the ſettlers alive on the beach: Twenty-three of them had ſet out for the river La Plata, and were never afterwards heard of, and all the reſt had periſhed through mine; from which circumſtances the place received the name of Port Famine.

SECTION LXII.

Iſlands of South America.

464. *Terra del Fuego.*] The iſlands of Terra del Fuego, on the ſouth of Patagonia, received their name from the fire and ſmoke which were perceived on them by their firſt diſcoverers, occaſioned by a volcano. The land is in general extremely mountainous and rough, and covered with almoſt perpetual ſnows; which circumſtances render the climate almoſt deſtitute of animals of every kind; here, however, human nature finds ſubſiſtence. The ſimple and hardy inhabitants are low in ſtature, have only the ſkins of ſmall ſeals wrapped round their bodies, and ſubſiſt principally on ſhell fiſh. Theſe iſlands were thought to form a part of the continent, till Magellan diſcovered and ſailed through the intervening ſtrait.

North eaſt of the ſtraits of Magellan lie the Falkland iſlands, belonging to the Engliſh. As theſe iſlands lie in a ſimilar latitude to that of the ſouth of England, they might naturally enough be ſuppoſed to enjoy nearly the ſame climate, were it not a well known geographical truth

truth, that the ſouthern hemiſphere is much more inclement than the northern.

Falkland iſlands, which are divided from each other only by a ſtrait four or five miles in breadth, are both dreary and deſolate ſpots, affording neither timber nor vegetables in any conſiderable quantities: the coaſts, however, are frequented by innumerable herds of ſeals, and vaſt flights of fowls, particularly penguins and albatroſſes.

The iſland of Juan Fernandes lies to the weſt of South America, in thirty-three degrees ſouth latitude, and about three hundred miles from the coaſt of Chili. This romantic iſle, diverſified with woods and water, with craggy hills and fertile ſpots, is famous for having given riſe to the celebrated romance of Robinſon Cruſoe. It appears that Alexander Selkirk, a ſeaman, and a native of Scotland, was put aſhore, and left in this ſolitary place by his captain, where he lived ſome years, and was diſcovered by Woodes Rogers in 1709: when taken on board, he had through diſuſe ſo forgot his native language, that he could with difficulty be underſtood: he was cloathed with the ſkins of goats, would drink nothing but water, and could not for a conſiderable time reliſh the ſhip's proviſions. During his reſidence on this iſland he had killed five hundred goats, which he caught by running down; and many more he marked on their ears and again ſet at liberty. George Anſon's crew caught ſome of theſe goats thirty years after, which diſcovered in their countenances and beards ſtrong marks of age.

SECTION LXIII.

American Indians, or the Red People, with a Compariſon between them and the Whites.

465. *Indian Tribes.*] The internal parts of North America, and thence to the vaſt Pacific on the weſt, are unknown to Europeans, and inhabited by numerous nations of Indians. The tribes whoſe names we have heard of, are nearly as follow, from north to ſouth: the Eſquimaux, Chippeways, Satanas or Shaounon, Adirondacks, Conoys, Nanticokes, Mawhiccons, Munſeys, Wapingers, the Ounamies, Outagamies, Algonquils, Nepiſſings, Sakis, Nokeis, Tſonontuans, Goyogans, Onontagues, Oneyouts, Agnies, Mohawks, or Maquas, Connecedagas or Rondaxes, Oſwegatches, Meſſeſawgas, Ultawas, Mattaugweſſawauks, Miamis, Hurons, Illinois, Outrachies, Loutres, Savannois, Sioux, Sauteurs, Waſſes, Anantoocahs, Nipegons, Hawoyzaſks or Rat Nation, Killiſtinoes, Followens or Wild Oats, Poes, Renards or Foxes, Sagamores, Narraganſetts, Mingoes, Shawanees, Delawares, Oneidas, Senecas, Caghnuagas, Cayugas, Cowetas, Muſkegoes, Corees, Aſſiniboils, Chriſtinaux, Iroquois, Tuſcaroras, Creeks, Cherokees, Kataubas, Choctaws, Chickeſaws, Natches,

Apaches, &c. In South America alſo, there are immenſe tracts of land inhabited by independent nations of Indians. In Guiana, are the Caribbees, Worrows, Accawans, and Arrowauks; in Amazonia, Omaguas and Yurimaguas; in Brazil, the Tapuyers and Topinamboys; in Paraguay, the Chaconeſe and Guaranis; and in Patagonia, the Pampas, the Coſſares, and Patagonians.

Some account of the American Indians have already been given (art 142, 143, 144) in this work: their deportment and eloquence in their public aſſemblies have been noticed; their paſſion for liberty, their ardent affection, and their manner of conducting horrid war. Indeed, when a man can reconcile to his feelings the putting of his fellow to death, on any principle whatever, there is no knowing what this may lead to; and, if we can impartially compare together, the avengeful wars of the Indians, and the cold blooded political ones of the Europeans, thoſe of the latter will, perhaps, appear infinitely more deteſtable in their deſign, and more dreadful too, if poſſible, in their conſequences and effects, than the moſt cruel and vindictive ones of the moſt ſavage of the Indians. The ſpeech of Logan, a Mingo chief, whoſe family, (a man unarmed, ſome women, and children) in croſſing the Kanhaway, in a canoe, were ſhot by a party of whites lying in ambuſh, may ſerve to ſhew the ſpirit wherewith the Indians go to war; and may ſerve, alſo, as a ſpecimen of their laconic and eloquent manner. Theſe violent people ſeem to be the victims of their own tormenting paſſions: they claim our pity, while they excite our abhorrence. When the collected forces of the Shawanees, Mingoes, and Delawares were defeated, and ſued for peace in the autumn of 1774, Logan diſdained to be ſeen among the ſuppliants. But, leſt the ſincerity of a treaty ſhould be diſtruſted, from which ſo diſtinguiſhed a chief abſented himſelf, he ſent by a meſſenger the following ſpeech to Dunmore.

"I appeal to any white man to ſay, if ever he entered Logan's cabin hungry, and he gave him not meat; if ever he came cold and naked, and he clothed him not. During the courſe of the laſt long and bloody war, Logan remained idle in his cabin, an advocate for peace. Such was my love for the whites, that my countrymen pointed at me as they paſſed, and ſaid, 'Logan is the friend of white men.' I had even thought to have lived with you, but for the injuries of one man. Col. Creſap, the laſt ſpring, in cold blood, and unprovoked, murdered all the relations of Logan, not ſparing even my women and children. There runs not a drop of my blood in the veins of any living creature. This called on me for revenge. I have ſought it: I have killed many: I have fully glutted my vengeance. For my country, I rejoice at the beams of peace. But do not harbour a thought that mine is the joy of fear. Logan never felt fear. He will not turn on his heel to ſave his life. Who is there to mourn for Logan? —Not one."

With the Indians, none are impreſſed or forced to fight. When the war kettle is ſet on the fire, the war ſong and dances commence, and the hatchet, no longer buried, is ſent to all the villages of the nation, and to all it's allies; thoſe that have a mind to ſhare in the expedition,

dition, give ſmall billets of wood to the war captain, and they are then conſidered as enliſted. It is death to recede.

How different is this from the method purſued in Europe! It would be ſuperfluous here to tell what a man-trade is everywhere driven in time of war. What lying in wait for the ignorant, the unſuſpicious, the helpleſs, or the diſtreſſed. What ſeduction, what coercion are practiſed with impunity. On the land and the water, the miniſters of war equally commit their abominations. By night they carry off their prey in ſecrecy and ſilence; by day, with unbluſhing and audacious effrontery. The cauſe of the war was, perhaps, ſome informality, or neglect of etiquette in the ambaſſador of a court, or petulance in his king, or royal family pique, or ſordid ſpeculation of equivocal or uncertain intereſt, territorial or commercial.

Among the Indians, the chiefs of the tribes ſhare equally with their followers, the hardſhips and hazards of the warfare. In Europe, the war chiefs, or the contrivers, the authors, and proſecutors of the war, ſitting at their eaſe, plan out the murderous expeditions, and calculate on the lives of human beings, on the mercantile principles of profit and loſs:—Such a proportion may be carried off by climate or ſickneſs—ſo many may be loſt at ſea—ſuch a number in diſlodging the enemy—but then we accompliſh our object; or, being ſubſidized, we get ſo much a head for the loſs. In Europe, it may be owned, there is not that ſeverity uſed towards priſoners; but, ſetting aſide the caſual atrocities committed by a heated or hardened ſoldiery, on helpleſs priſoners and others, there are inſtances, even in Europe, where indiſcriminating maſſacre is the reſult of the battle. When places are taken by ſtorm, it is contrary to the laws of war to give quarter to the vanquiſhed. Oh England! art thou clear of theſe dreadful abominations? Or rather, art thou not moſt deeply engaged in deſtroying human happineſs? Is there, on the ſurface of the earth, ſuch a waſp's neſt to be met with? And, are not thy ſting-bearing emiſſaries doing miſchief continually, and in every quarter of the globe. But to come home to thy heretofore boaſted land of liberty, for that boaſt now ſeems extinguiſhed, let us ſee how it is in a country, where it has been pretended, that the air is too pure for a ſlave to breathe, (art. 193). When criminals are tried for offences by the civil power; though, even in the caſes of life and death, the mercenary lawyers be allowed to diſplay their abilities, and exert their utmoſt eloquence to compaſs or prevent the priſoner's death; though the council employed againſt the priſoner have the firſt charge and the laſt reply; though, on acquittal of the culprit, no reſtitution be made for the loſſes and the injuries he may have ſuſtained; and though, on conviction, his ſurviving and innocent family may be deprived of the means of ſubſiſtence, by a confiſcation of goods, there is a ſemblance of juſtice. There is a jury appointed, and theſe may yet be humane and honeſt men, trammeled as they are, with abſurd and barbarous laws. But, when military men, and theſe too, officers, are made judges, in caſe of life and death, over their inferiors, with whom it would be diſreputable to enter into familiar converſation, and whom it would be degrading to conſider as fellows or equals: humanity bleeds. Yet, theſe things are permitted

mitted among the Engliſh, over the militia, who never ſold their rights; and, in the army, the judges are ſuch by purchaſe: for, there, commiſſions are bought and ſold. To theſe the lives of the thoughtleſs youths, who have been allured, or tricked into the ſervice, are entruſted; and the levity, ſometimes exhibited by boy-officers on court-martials, is ſhameful in the extreme. Theſe officers, however inſubordinate they may prove, are neither tied up, and whipt, nor piqueted; on the contrary, in 1795, a year wherein the moſt nefarious meaſures had been adopted in the raiſing and diſpoſing of ſupplies of men to the army, when theſe experienced the greateſt provocatives to mutiny, and then were ſhot for their inſubordination; an officer convicted "of diſobedience of orders, and diſorderly conduct, behaving in the moſt inſolent and mutinous manner at the head of his company, is adjuged to be caſhiered." Since the eſtabliſhment of a militia, or the coercion of peaceable inhabitants, into the degraded, or ſlaviſh ſtate of hired aſſaſſins, or mercenary ſoldiers, theſe national guards, or citizen ſoldiers, had from time to time been tied up and whipt, even in the open ſtreets or markets of their native country; but in 1795, militia-men were formally tried and ſhot.

For all theſe things there has been no remonſtrance from the people of England, no petition to the legiſlature for their abolition. Property, with them, ſeems every thing; there is no ſpecies of magiſtracy or legiſlature without it; they look to it with adoration. They have not felt themſelves inſulted or injured through the ſufferings of theſe men; and the profeſſed patriots are engaged in perſonal invective. Indeed the liberty beſt ſuited to the taſte of the Engliſh nation ſeems to be that of being abuſive; for, in their greateſt outcries againſt tyranny and oppreſſion, they ſeem generally to have more regard to perſons than principles. The latter they loſe ſight of, in declamation againſt the former. The extravagance and inſincerity, the imbecility and defection, or dereliction, the corruption and hypocriſy of the great, and of thoſe in public office, are the popular ſubjects; even the true friends of equal juſtice are diverted with the *fracas*, while the worſt of meaſures are carried on, and continue unreformed.

From the foppiſh appearance of the officers, forming a court martial, we might be ready, in theſe inſtances, to ſuppoſe a miſtake in the appointment. The caps, cockades, and feathers, the trinkets and trappings of the military beaux, might give us an idea of levity in the men: but ſuch would be a falſe prejudice; theſe are only their livery, they are no part of the men. If the character were to be affected by the exteriors of dreſs, what ought we to expect from the judges on the bench, bedizened over with Gothic ornaments, and crowned with vaſty perukes; in a dreſs ſo different, though not at all leſs ridiculous, we might expect quite a different kind of men. Again, if the exteriors of dreſs affected the character, might we not ſuppoſe of the conventioniſts of France, thoſe *ſoi-diſant* philoſophers and profeſſors of equality, that good ſenſe were baniſhed from their aſſembly, ſeeing they retain ſo much of that frippery taſte, which has heretofore been the ſubject of ſatire on their nation, as to adopt a *coſtume* or livery? Or, might we not ſuppoſe that they

they had aboliſhed the academical and eccleſiaſtic inſignia, only, that they might themſelves have a more impoſing air of ſuperiority, in the view of the multitude? While, on the other hand, we might ſuppoſe, in regarding the members of the Engliſh houſe of commons, dreſſing, every man according to his inclination, we ſaw real repreſentatives of a free people. But, to quit this digreſſion on outward forms and obſervances, and return to a ſubject, which is ſadly, or ſhockingly, ſerious. When we conſider the habits of domination, in military men, over thoſe who are beneath them; their ſyſtematiſed ſubmiſſion towards thoſe who are ſet over them, ſervility and inſolence ſeem ſo neceſſarily attached to their wretched manner of life, we muſt ſuppoſe them to be extraordinary characters indeed, who can riſe ſuperior to theſe diſadvantages, and act judicially, as upright and impartial men. In France there are military executions, but in that country, the privates are judges on the trial, equally with their officers. Their ſanguinary profeſſion, naturally induces us to ſuppoſe, that military officers muſt be of cruel or hardened diſpoſitions; but if we ſuppoſe them to act from certain notions, however falſe, of patriotiſm or loyalty, and under theſe impreſſions, even ſuppoſe them poſſeſſed of a degree of generoſity, to devote themſelves to hardſhips and dangers; it will yet be extremely difficult, or impoſſible to reconcile one very predominant part of their manners, with the principles of humanity, philoſophy, decency, or common ſenſe. Self-praiſe, in the common walks of life, is by no means reſpectable; on the contrary, it is proverbial that, "Self-commendation is commonly puniſhed with contempt." Yet, the military officer, however modeſt his diſpoſition, or however ſound his judgment, ſubjects himſelf, by his profeſſion or ſtation, to the neceſſity of ſupporting the character of a ſelf-applauder, and that in a way at which humanity ſhudders. Suppoſe ſuch a man to be charged with deceit or falſehood; or, ſuppoſe any one ſay of him, that he is of ſuch a diſpoſition or character as he thinks is not flattering, or is diſgraceful; inſtead of appealing to his actions, like a man of ſenſe, he muſt either challenge the perſon who uſes ſuch language, or his conceited and miſtaken fellow officers will, perhaps, no longer keep him company. Suppoſe he be inſulted, and he have the goodneſs to forgive, in his heart, the perſon who attempted to affront him; or, ſuppoſe he receive a challenge from a perſon to whom he wiſhes no ill, he muſt engage in the murderous duel, or be held in diſgrace by his companions. In eſtabliſhments, where this kind of ſelf-love, or ſelf-conceit is reſpected, what juſtice or reſpect can we expect to be ſhewn to thoſe who are in lower ſtations? As this principle of ſelf-vindication prevails moſt among military officers, who are accuſtomed to regard the privates as ſlaves; ſo in thoſe countries, where the poor are leaſt eſteemed or reſpected, this practice ſeems to prevail the moſt. In France, before the revolution, duels, or *rencontres*, were very frequent; but they have now, happily, received a deadly blow. In Ireland, where the poor are ſo much neglected or deſpiſed, the *petits maitres* are much addicted to duelling; while in England, where the working people are treated with a degree of reſpect, this barbarous Gothic practice ſeems, in a great meaſure, to have given way to better manners and good ſenſe.

But how horrid is the policy that prevails in military eſtabliſhments, particularly, in the manner of adminiſtering puniſhment. Honeſt and well meaning men, we may in charity ſuppoſe, from miſtaken notions, or falſe principles of education, may, in ſome inſtances, without a conſciouſneſs of guilt, or of their doing wrong, inflict puniſhment on the perpetrators of crimes; may, even put them to death, without ſuſpecting that their formal act of law is no other than licenſed murder. But when thoſe who inflict puniſhment on criminals, are conſcious of being equally criminals themſelves, does not every body revolt with horror at ſuch flagrant injuſtice or atrocity, if theſe 'miniſters of juſtice' act of themſelves? and, what muſt be their feelings, if they act from coercion? If they have any principle of integrity remaining in them, muſt not their feelings be agonizing beyond all deſcription? and, if they can be brought by coercion to commit the deed, muſt not the guilt fall on thoſe who have uſed the coercion? yet, ſuch is the honeſticidal policy obſerved or adopted in military eſtabliſhments. When there is a victim marked out for death, for the perpetration of crime, it is not the maxim, that he that is without ſin ſhall caſt the firſt ſtone: on the contrary, if there be any who have made nearer approaches than the reſt, in the manner and meaſure of guilt, wherewith the criminal is charged, theſe are they who are picked out to be the executioners. Thus are the unhappy men, not only inſulted with the remembrance of their former tranſgreſſions; thus, is the office of executioner rendered diſgraceful, though not at all more deteſtable (even coercion apart) than that of judge; but chiefly, and above all, the poor men in the act, are not ſimply obliged to ſhoot a criminal, a man, but a ſort of brother, a kind of ſecond-ſelf. Indians, have ye any thing among you ſo abominable?

We might here make an end of this multifarious work; but the ſympathetic reader will perhaps feel more gratified to cloſe with ſcenes leſs diſtreſsful than thoſe that have been juſt depicted.

When any of the Indian nations go to Philadelphia, on buſineſs with the government, it is thought proper by the Profeſſing Friends, or Quakers, there, to continue an old cuſtom of ſhewing a friendly regard to them, in order to inculcate a peaceable diſpoſition, and to remind them of the cordiality, which, from the beginning, ſubſiſted between their anceſtors, and has continued uninterrupted for many years; on which occaſions the Indians have always expreſſed much pleaſure and ſatisfaction.

To the Children of the Friends of Onas, (the name given by the Indians to William Penn, being the word in their language for a feather or pen,) who firſt ſettled in Pennſylvania, the requeſt of *Corn Planter*, a Chief of the Seneca Nation.

Brothers.—The Seneca nation ſee, that the Great Spirit intends that they ſhall not continue to live by hunting, and they look around on every ſide, and enquire, who it is that ſhall teach them what is beſt for them to do. Your fathers have dealt fairly and honeſtly with our fathers, and they have charged us to remember it; and we think it right to tell you, that we wiſh our children to be taught the ſame principles by which your fathers were guided in their councils.

Brothers.—We have too little wiſdom among us, we cannot teach our children what we perceive their ſituation requires them to know, and we therefore aſk you to inſtruct ſome of them; we wiſh them to be inſtructed to read and to write, and ſuch other things as you teach your own children; and eſpecially to teach them to love peace.

Brothers.—We deſire of you to take under your care two Seneca boys, and teach them as your own; and, in order that they may be ſatisfied to remain with you, and be eaſy in their minds, that you will take with them the ſon of our Interpreter, and teach him alſo according to his deſire.

Brothers.—You know that it is not in our power to pay you for the education of theſe three boys; and therefore you muſt, if you do this thing, look up to God for your reward.

Brothers.—You will conſider of this requeſt, and let us know what you determine to do. If your hearts are inclined towards us, and you will afford our nation this great advantage, I will ſend my ſon as one of the boys to receive your inſtruction, and at the time which you ſhall appoint. *Corn Planter*, his † mark.

Signed Feb. 10, 1791, in the preſence of—Joſeph Nicholſon.

From the People called Quakers, the Children and Deſcendants of thoſe peaceable People, who firſt ſettled in Pennſylvania, being the Friends of Onas.

To *Corn Planter*, the Seneca Chief; or, to Joſeph Nicholſon, the Interpreter, to be by him explained to the ſaid Chief.

The written meſſage of Corn Planter, dated at Philadelphia on the 10th day of February laſt, was not received by us until ſome weeks after. His requeſt, that we would take under our care two Seneca boys, one of them his own ſon, accompanied with the ſon of Joſeph Nicholſon, we have conſidered; and do agree to receive them, when they can be conveniently ſent to us; intending they ſhall be treated with care and kindneſs, and inſtructed in reading, writing, and huſbandry, as the children of our Friends are taught. The governor of Pennſylvania, when informed of this propoſal, having expreſſed his approbation thereof, as did general Knox.

Signed on behalf, and by appointment of, a meeting of the repreſentatives of the ſaid people, the 2d day of the Sixth-month, called June, 1791. By ſeveral Profeſſing Friends.

Subſtance of the Converſation of the Profeſſing Friends, at ſeveral interviews with the Deputies from the Indian Southern Nations, at Philadelphia, Second-month, 1792.

Brothers of the Cherokee Nation, or Red People,—We who have ſpoken with you are glad to ſee you here, and rejoice that you are come as meſſengers of peace. We wiſh you to know, that there are many of our brethren, called Quakers, ſettled in moſt of the United States, who are lovers of peace, and do not meddle with war; and we are very ſorry that there have been wars and bloodſhed between you and the people of the United States; for we believe, that we are all children of the ſame Great Creator, who intended that we ſhould live in love and peace with each other; but when any of his children get drunk, cheat, ſteal, or hurt and kill one another, he is diſpleaſed with

with them; and when they will not regard his good Spirit placed in their hearts, then they go into all kinds of wickedneſs, which brings miſery upon them; and they are not afraid even to deſtroy the lives which came from the hands of the Great Creator. But if we pray to him for the help of his good Spirit, and feel it in our hearts, and attend to it, we learn to pity thoſe that the evil ſpirit makes unhappy, and we can do good even to our enemies.

We therefore much deſire, that our brothers of the Cherokee Nation, may be brought more and more to the knowledge of the Great Creator, and that, as his children, they may live in love and peace with each other, and with all men; and then we believe the Red People would not live ſo much by hunting, but employ themſelves in tilling the ground, learning uſeful trades, and get proper ſchool-maſters to teach their children, that they might be brought up to love and obey the great and good Spirit who made them. Theſe things we wiſh our brothers of the Cherokee nation to think of; and, above all, to pray in their hearts to the great and good Spirit, for his help in all their honeſt undertakings, that they may be happy in this life, and after death in an everlaſting eternity. We deſire theſe words from us, your brothers, may take deep hold in your minds, and warm your hearts, that ſo you may be ſtrengthened to tell them to the people of your nation. We alſo pray that the great and good Spirit may conduct you home in ſafety, and make you the meſſengers of good tidings from the government of the United States. Farewel. Signed by ſeveral Philadelphia, 19th of Second-month, 1792. Profeſſing Friends.

From the above conferences between the Reds and peaceable Whites, it appears that the people called Savages believe in a Supreme Being, who careth for them, and who will reward the benevolent. Their gratitude towards, and confidence in, thoſe whom they account their benefactors, how ardent and ſincere! If the Whites could entirely divеſt themſelves of their prejudices, and feel no conſciouſneſs of ſpiritual ſuperiority, what an extenſive field of mutual communication might hereby be opened! What benefits, for inſtance, the Quakers might be the inſtruments of communicating, if happily, through their example, the principle of peace were diffuſed! And what ſolid advantage they might themſelves derive from the adoption of the ideas and manners of ſome of theſe ſimple and innocent people! With ſome of the Indian tribes the women bear an equal part with the men, in the buſineſs of their Public Aſſemblies; moreover, without the imputation or ſuſpicion of indelicacy, they can declare their affections to the men.

FINIS.

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